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### *Training needs analysis of healthcare library staff, undertaken for South Yorkshire Workforce Development Confederation*

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## **Training needs analysis of healthcare library staff**

Undertaken for  
South Yorkshire Workforce Development Confederation

By

Department of Information Studies, University of Wales  
Aberystwyth

November 2004

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## **Executive summary**

### **Executive summary**

#### **Aims and objectives**

The aims and objectives of the training needs analysis were to inform the planning and implementation of training strategies for healthcare library staff in the South Yorkshire Workforce Development Confederation by:

- identifying the training and development needs of staff, using a matrix of technical/specialist, interpersonal skills and underpinning knowledge
- identifying future training needs
- developing an options appraisal, taking into account comparative costs of various delivery methods.

#### **Current skills needs**

Professional staff currently require enhanced skills in:

- Design and evaluation of training
- Financial management, quantitative data analysis methods, statistics
- Principles of web design and intranet management

Paraprofessional staff currently require enhanced skills in

- Cataloguing and classifying
- Preparation of promotional material (Section 4.2)

#### **Future skills needs**

Synthesising the various predictions, library managers and professional specialists should improve their skills in:

- Strategic management of a virtual knowledge service
- Knowledge management (to support clinical governance)
- E-learning, educational principles (to support user training, CPD)
- Leadership and interpersonal skills (to support service development, innovation)
- (Sections 4.3-4.5)

Perceptions of competence indicate that current confidence in team working needs to extend to bidding for, and managing, more innovative, cross-departmental projects. Similarly, current expertise in cataloguing needs to be transferred to knowledge taxonomies for intranets. Skills in print-based information presentation need to extend to electronic presentation and summarisation for different audiences. Paraprofessional staff need to upgrade skills in a wide range of areas if they are to supervise or manage the library when the librarian is doing outreach work. (Section 4.6)

Activity logs conducted for the South Yorkshire survey indicated that librarians are probably not gaining enough practice in leadership skills. (Section 4.8)

#### **National and international developments in health informatics for library staff**

For the health sector, a recent report to CILIP emphasises the emergence of new specialist roles, noting that advancement should be via increased specialism, not merely via the management route (Section 2.6.1). In North America the development of the 'informationist' role reflects similar concerns to upgrade specialist skills (Section 2.6.3). Training needs analyses since 1995 in the UK indicate that health librarians, like other librarians, need to enhance strategic management and leadership skills, research skills and quantitative analysis, teaching skills, information retrieval, and ICT skills (Sections 2.5, 2.6.4 –2.6.8).

Policy and operational changes require health library staff to have improved ICT skills (for themselves, and to support others), and skills and knowledge to provide services to new user groups in the community, in social care and to support the provision of information to patients and the public (Sections 2.2.3, 2.3.1, 5.2)

There are several groups of health informatics staff in the NHS, and library staff mostly fit into the 'knowledge management' group. The development of job profiles, against the

NHS Knowledge and Skills Framework, using the revised job evaluation scheme is currently underway (Sections 2.2, 2.4). Professional accreditation and registration via UKCHIP is on the horizon. (Section 2.6.2)

### **Training options**

For training, health library staff prefer shorter (half-day) or one-day courses, with a high proportion of interactive activity. The costs of the main options for training depend on the extent to which external courses or in-house locally organised 'study day/workshops' are used. Heavy use of external courses, study days is less cost-effective, but requires little local organisation. More use of in-house, locally organised training can be tailored more easily to the range of expertise present, but requires more staff time locally. There is a huge difference, however, in the number of staff that can be trained. Locally organised courses provide four times the number of training opportunities, at a cost per 'event' under a third of the price of an external training course. (Sections 4.9, 5.3)

A middle way option, with half-day and full-day events, plus some external training, could cater for the range of learning outcomes that might be desired.

There should be good support after any training event, and it is **recommended** that coaching and/or mentoring schemes be established to ensure trainees get sufficient time to practise their new skills. Coaching is particularly important for the leadership skills. (Section 6)

## **Acknowledgements**

The project team is indebted to all those who participated in the project through taking part in interviews, questionnaires, or activity logging. We thank them for sparing the time to contribute to this work. We also thank Valerie Monaghan and her team for helping to set up the interviews and for advice on the draft reports.

## **Abbreviations**

CILIP Chartered Institute of Library and Information Professionals

ECDL European Computer Driving Licence

HEI Higher Education Institution

ICT Information and Communications Technology

IM&T Information Management & Technology

IsNTO Information Services National Training Organisation

KM Knowledge Management

KSF Knowledge and Skills Framework

MLAC Museums Libraries and Archives Council

NPfIT: National Programme for IT

NVQ National Vocational Qualification

SHA Strategic Health Authority

UKCHIP UK Council for Health Informatics Professionals

WDC Workforce Development Confederation



# 1 Introduction

## 1.1 Aims and objectives of the training needs analysis project

The aims and objectives were as set out in the original proposal, for the option that set out plans for South Yorkshire only, with the inclusion of document analysis, training needs surveys, interviews, activity logging and options appraisal.

### 1.1.1 Aims

The aim of the training needs analysis was to inform the planning and implementation of training strategies for the healthcare library staff in South Yorkshire Workforce Development Confederations (WDCs).

### 1.1.2 Objectives

The objectives were to:

- Identify, through scenario planning, issues and possible training needs for delivering healthcare library services in the future
- Identify the training and development needs of staff, using a matrix to help identify common areas for training and development
- Develop an options appraisal for delivery of training that may be required, taking into account costs and benefits of particular delivery methods.

## 1.2 Sample

The scope of the project encompassed all healthcare library staff (professional and para-professional) providing library service support to NHS staff and NHS-funded students in the South Yorkshire area.

# 2 Policy review

## 2.1 Introduction

The policy review examined the key local and national documents on training and development needs of healthcare library staff. Interviews with expert informants helped to illuminate some of the policy review indications. The aim of the review was to inform the options appraisal, and the objectives were therefore to:

- Review previous recommendations for healthcare library staff training and development
- Review previous training plans and type of training undertaken
- Identify groups of staff who need training and development, and the type of training and development required
- Indicate future role changes for staff currently working in healthcare library and information services.

Most emphasis was placed on staff working directly in NHS funded libraries but a large number of NHS staff in South Yorkshire are served by libraries which are higher education libraries, with service contracts to provide a library service to NHS staff. Such staff have access to training and development provided through their higher education employers, but they do have a dual role, and they may need specific support to fulfil their roles for NHS staff. Several NHS libraries are run by staff working under Local Authority

(public library) contracts, and similarly have access to training through the public library training programmes.

## **2.2 South Yorkshire context**

### **2.2.1 South Yorkshire Library Review Project (baseline study)**

The baseline study (Godfrey, 2002a) examined library resources and services, in the South Yorkshire area (extended to North Derbyshire as there are educational links between this area and the Sheffield universities). This study assessed the funding streams available to the libraries in the area, line management variations, access and service policies, user education and training provision and concluded with a SWOT analysis. The conclusions relevant to training and development needs were that:

- Staffing levels were low, with limited time for service developments. The implication is that time for staff training offsite during the working day is also limited
- Few libraries have staff dedicated to user training or outreach services. The implication is that the service gap becomes a training gap as library staff are not gaining skills in the necessary outreach training and support, or in marketing and customer relationship management in the development of new services.
- IT connections were, at the time of survey (2001/2002) poor. The implication is that IT skills are underdeveloped as staff are dealing with routine connection problems.
- Library web sites were underdeveloped. The implication is that there is a skills gap in the content management and e-publishing skills.

### **2.2.2 South Yorkshire Library Review Project. Final report**

The final report (Godfrey, 2002b) made recommendations on funding, access to resources and the management of library services. The training recommendations were that:

- SYWDC should ensure that there was effective workforce planning to enable library and information services to provide a basic and outreach library service, with opportunities for staff development
- Library staff to be equipped with the necessary skills in IT, training (of users), marketing and project management.

### **2.2.3 Libraries, information & knowledge (November 2003) strategy for South Yorkshire**

The draft (for discussion document) (Monaghan, 2003) set out a strategy to provide effective support for a modernised NHS. The main concerns were associated with provision of an equitable service for all healthcare staff and students across South Yorkshire, comprising the health communities of Barnsley, Rotherham, Doncaster and Sheffield, with one Ambulance Trust, one Care Trust, five Acute Trusts, 9 Primary Care Trusts and two Mental Health Trusts (the latter crossing neighbouring boundaries). The document identifies the emerging roles of library staff in:

- Clinical teams
- Developing and managing outreach services
- Supporting clinical effectiveness
- Providing training support for health professionals in information literacy (information skills to retrieve and evaluate information)

- Provision of health information to patients and the public
- Provision and support of websites and intranet services

Knowledge management is identified as a key theme in the IM&T strategy for South Yorkshire and this requires healthcare staff – and social care staff – to have access to up-to-date knowledge and the evidence, the skills to use that evidence in their work and practice. Patients and the public also need to have access to a wide range of information on how to maintain health and well-being. The emerging roles could be seen to map to the knowledge management agenda in the following ways:

- Health professionals need information literacy skills, and library staff need education and training skills to teach information literacy.
- Clinical effectiveness requires staff to be aware of relevant resources and how they may be used. Often this will require health librarians to work with clinical teams to support the development of clinical guidelines, for example.
- Social care staff, patients and the public need better access to knowledge resources that were previously only accessible to some NHS staff. To provide new services to new groups requires marketing and project management skills to develop and evaluate the effectiveness of outreach services.
- A greater proportion of learning resources and the evidence-based resources are being made available electronically. To manage the presentation of such resources, and to make them useful to staff, requires library staff skilled in website design and content management.

## **2.3 NHS policies and drivers**

### **2.3.1 NHS policies for NHS libraries**

Several documents mention library services or library staff (as part of the health informatics staff) specifically.

The Health Service Guideline (replacing HM (70) 23 Library Services in Hospital) published in 1997 (NHS Executive, 1997) set key principles and actions for improving access to information via the development of multi-professional library and information services. Previously many hospital libraries had been funded under the auspices of postgraduate medical education, and although they may have served other staff groups, and received some funding for doing so, the libraries were not specifically multi-disciplinary. The guideline states that 'High quality libraries and skilled library staff, are central to knowledge base access as they:

- Provided information to enable NHS staff to carry out their work
- Support the education, training and professional development of all NHS staff
- Support postgraduate and continuing medical and dental education
- Support high quality evidence-based clinical practice and management decision making
- Support research and development undertaken by NHS staff and the dissemination of research findings
- Assist quality assurance and medical audit
- Provide health promotion and other information for patients.'

Information for Health (NHS Executive (Frank Burns), 1998) set out a strategy which included the development of the National electronic Library for Health, which would provide 'accredited clinical reference material on NHSnet'. The strategy envisaged that

the National electronic Library for Health would be accessible through local intranets in all NHS organisations by March 2002.

This strategy was amended to take account of the vision of a redesigned health service in the NHS Plan (Department of Health, 2000). The investment in IT made available for modernisation demanded updates to the original information strategy published in 1998. The updated strategy, *Building the Information Core* (Department of Health, 2001a) envisaged an information system to support seamless care of the individual, from preventive care through self care, primary care, secondary care, hospital care and intermediate care. The quality framework set out in *A First Class Service* (Department of Health, 1998) requires clear standards (as set out in National Service Frameworks. NICE guidance), dependable local delivery (through professional self regulation, clinical governance and lifelong learning) and monitored standards through standards set by regulatory bodies established by the government. The plans for information services set out in *Building the Information Core* focused heavily on information services to patients and the public with plans for NHS Direct Online, information points, NHS digital TV services and NeLH providing the research evidence behind news stories as well as the core evidence-based resources and specialist web sites. Education and training of all staff in health informatics was to be a priority, with ECDL to be the basic standard. Health informatics staff were also considered, noting that 'the existing target was that 50% should either have, be studying for, or registered for, appropriate qualifications by March 2001'. (para 5.16)

Guidance (Department of Health, 1999b) issued under the modernisation plans (Department of Health, 1999a) notes the need to 'expand access for all staff to information and library services to support learning and ensure that all staff develop competence in information handling'. The main document (Department of Health, 1999a) indicates that libraries are 'critical to the development of evidence-based practice and clinical governance'.

### **2.3.2 Lifelong learning**

The framework for lifelong learning (Department of Health, 2001b) set out plans for all NHS staff to have a personal development plan (PDP) which would support their individual learning needs, noted the need set out originally in the NHS Plan for staff without a professional qualification to have access to an NHS Learning Account or to dedicated training to NVQ level 2 or 3. To support this the framework called for learning and development strategies in every NHS organisation, coherent appraisal, links between CPD portfolio development and re-registration/re-validation for professional staff, and support from small staff groups who had received little support in the past. Organisations would also require knowledge management strategies 'to ensure 24 hour access and utilisation of electronic learning resources, including the National electronic Library for Health, research and study facilities, databases and skilled information support.' (para 55). The document also sets out the need from NHS library services to work in partnership with the future NHSU, and with learning networks in further and higher education: 'NHS library services are a vital parts of the current and future NHS learning landscape.' (para 71).

### **2.3.3 NHS spending priorities**

The increase in spending on the NHS was one of the outcomes of the Wanless report (Wanless, 2002) which attempted to quantify the financial, and other resources required to ensure that the NHS can continue to provide a publicly funded, high quality service available on the basis of clinical need and not ability to pay. Cost estimates were provided for three different scenarios of public engagement with health and lifestyle issues that might affect their demands for healthcare. The report noted:

- Poor ICT investment record and need for a significant programme of ICT investment (para.3.68, 3.71)

- Need for ICT support systems for clinical governance, and the need to integrate applications across health and social care (para 3.69, 3.73)
- Need for staff training in ICT (para 3.73)
- Need for greater public engagement and a more effective partnership between patients and the public, and health professionals. (para 6.82)

#### **2.3.4 NPfIT: developing the ICT infrastructure**

The National Programme for Information Technology (NPfIT) (NPfIT, 2004) details the progress of the work outlined in a working document (Department of Health, 2004a). This set out the plans for the full establishment of the National Knowledge Service (NKS) in 2006-2007, and (para 4.8.2) plans for better career pathways for those involved in health informatics, including a register of professional competence.

#### **2.3.5 Patient choice and information for the public**

The policy document on patient choice, Building on the Best (Department of Health, 2003) sets out the agenda “to ensure people have the right information, at the right time, with the support they need to use it” (para 7, executive summary). The document proposes (paras 82,83):

- Extension of NHS Direct services for digital TV
- Working with other providers of health information, including the voluntary sector, to kitemark health information for patients and the public
- Patient access to their own personalised care plan in ‘HealthSpace’, with links to the care record shared with their care team (para 57)

The emphasis on empowering the patient and the public, providing services centred around the patient, and modernising service delivery was part of the vision detailed in the NHS Plan (e.g. paras. 6.11, 6.15) (Department of Health, 2000).

## **2.4 Health informatics and occupational standards**

### **2.4.1 Occupational standards**

The project to develop national occupational standards for those working in health informatics arose from the Department of Health human resources strategy (Department of Health, 2002) for those working in health informatics. An NHSIA project to develop national occupational standards for ICT staff was integrated into the project to develop occupational standards for health informatics staff. The project (Christie, 2004a) sets out the main health informatics staff groups as:

- Knowledge management staff
- Information management staff
- Health informatics senior managers and directors of services
- Clinical informatics staff
- ICT staff
- Health records staff

Of these groups, the report notes (p.9) that the “traditional role of the librarian within healthcare organisations or associated academic institutions has developed, including the

greater use of ICT. Librarians are now increasingly seen as Knowledge Managers whose role includes: ascertaining clients' information needs, identifying and filling gaps in the provision of useful information, and a distinctive training role. Services may now be delivered through physical or virtual facilities". Of the estimated 20, 000 or so staff working in health informatics in England the report estimates that there are 913 knowledge management staff (and 7,140 ICT staff). The skill areas that are covered by knowledge managers include (p.14):

- Information retrieval (simple and advanced searching) on text databases
- Use of databases and library services to store accredited information that can be accessed electronically (essentially intranets to support evidence based practice)
- Identification and presentation of information suitable for the intended audience, including critical appraisal and evaluation of information and supporting other health staff in critical appraisal skills
- Identifying and collating relevant information to provide targeted current awareness services
- Providing structured training in the use of electronic information resources.

The report acknowledges that librarians have been more used to dealing with explicit knowledge. New emerging roles will focus more on supporting the development of tacit knowledge and generating explicit knowledge from tacit knowledge (through knowledge harvesting tools, possibly). The functional map (Christie, 2004b) includes the main areas of:

- Lead, promote and manage the use of resources to improve health care delivery (A) with sub-areas:
  - A1 Provide direction;
  - A2 Ensure governance and manage risks;
  - A3 Manage change and achieve results;
  - A4 Manage resources;
  - A5 Manage and develop people;
  - A6 Enable the learning and development of others (including through e-learning)
  - A7 Manage projects
- Identify, collect, analyse, disseminate and maintain data and information to improve health care delivery (B)
  - B1 Identify, collect, abstract, classify, analyse, disseminate and audit data and information
  - B2 Administer, handle and communicate information to support health care delivery
- Enable, develop and manage knowledge to improve healthcare delivery (C)
  - C1 Investigate and develop strategies to meet users' needs
  - C2 Identify, acquire, appraise, organise and provide information and knowledge
- Plan, implement, sustain and review the provision of ICT to support and improve health care delivery (D)
  - D1 Investigate and define requirements
  - D2 Manage software development
  - D3 Develop software
  - D4 Install and upgrade software
  - D5 Manage and operate ICT systems
  - D6 Test ICT systems
  - D7 Diagnose technical faults and identify remedies

- D8 Provide technical advice and guidance in relation to ICT
- D9 Maintain the security of ICT systems

Most of the knowledge management competencies are found in section C1 and C2, although there are relevant general managerial and pedagogical competencies in other sections.

#### **2.4.2 NHS knowledge and skills framework**

The Knowledge and Skills Framework (KSF) policy document (Department of Health, 2004) produced by the Agenda for Change Project team, together with the job evaluation handbook (Department of Health, 2004b) provide guidance on the job dimensions used in the NHS KSF, which are divided into six core and 24 specific dimensions. The core dimensions are relevant to every post (Communication, Personal & People Development, Health/Safety/Security, Service Improvement, Quality, Equality & Diversity).

There are three **specific** Information and Knowledge dimensions:

IK1 Information processing

IK2 Information collection and analysis

IK3 Knowledge and information resources

The **general** specific dimensions are:

G1 Learning and development

G2 Development and innovation

G3 Procurement and commissioning

G4 Financial management

G5 Services and project management

G6 People management

G7 Capacity and capability

G8 Public relations and marketing

### **2.5 Future skills needs for the information sector in general**

#### **2.5.1 IsNTO reports**

The Information Services National Training Organisation Skills Foresight project (2002-2003) assessed the future skill needs of the sector. The skill areas identified (isNTO, 2003a) were:

- External links
  - Customers and clients
  - Influencing others
  - Research and current awareness

- Job related
  - Training of staff and skills development
  - ICT
  - Technical (specialist)
- Management
  - Management – general and administration
  - Management – people
  - Management – strategic
- Personal/core skills

Like the 2003 project, an earlier project (isNTO, 2001), covering employers from libraries, archives and records management, information and knowledge management, used the STEEP headings (Sociological, Technological, Environmental, Economic and Political) to consider the drivers. The findings of the 2001 study emphasised the diversity of the sector, with no single group predominating as being more important than others. At that time, the most urgent skills gaps seemed to be in

- Marketing and promotion
- Supporting the learner
- Performance management.

There was also a perceived need for basic ICT training (ECDL) which has been, or is being, tackled.

The later project (isNTO, 2003b) noted the following main drivers

- The 24/7 society – access to information required at any time
- Lifelong learning, and social inclusion
- Rapid pace of technological change, and the digital divide
- Expectations that information is 'for free'
- The 'green agenda' and the transport infrastructure
- Bidding culture and need to demonstrate accountability, in a climate of reduced core funding
- E-government, and legislative changes governing intellectual property, data protection and freedom to access information
- Outcome based approaches to delivery

The 2003 project identified a wide range of skills required under external links, with influencing others being the single largest area in this category. Under research and current awareness, focus group participants noted the importance of skills in information gathering (survey design and statistics) and analysis, as well as knowledge of the sector



itself and awareness of legislative requirements. The main technical skill needs were knowledge management, stock selection, cataloguing and indexing. Risk management and project management were the main management skills required. Communication skills were the most highly rated of the personal skills. The focus groups totalled 33 participants and the results are better described as indicative only.

The postal questionnaire (225 respondents) rated the following skills as most important:

- Customer care
- Technology awareness
- Information retrieval (search & evaluation)
- Managing people (Human resources management)
- Leadership
- Managing change
- Strategic planning
- Collection management

Relating the list of important skills to existing skills, the main skills gaps indicated are:

- Customer care
- Leadership
- Managing change
- Negotiating
- Technology awareness.

The main training needs identified by the participants were stress and time management, project management, conflict management, performance management, managing people, communication and interpersonal skills, counselling/coaching/mentoring, general business skills, supervisory skills, team building and assertiveness.

The sample was relatively small, compared to the size of the sector, and also very diverse, which limits the generalisability of the findings. However, the pace of technological change, and rapid changes in government policy drivers, can be related to the perceived need for stress and time management, project management, and performance management. As the report concludes (p. 38) the lack of importance given to skills with the research and forecasting group is problematic. If those within the sector valued, and were better at, making and building on relationships with customers, stakeholders and funders, and if the skills of research and analysis were better, then the main skills gaps would disappear. Managing strategically is vitally important.

## **2.6 Future skills needs for the health information sector**

### **2.6.1 CILIP reports**

The report by the Health Executive Advisory Group to CILIP (Health Executive Advisory Group, 2004) is intended not only to set out the agenda for developing health librarians' skills and knowledge for working in the health sector of the future, but also to indicate the needs of the entire profession. Developments in skills for librarianship and information

science in the health sector often predate the developments for other sectors, and the report notes that if CILIP does not act wisely and quickly then others will lead the information profession. The report in the section 'Emerging roles and skills' points out that:

- Librarians can, and should, be able to develop specialist skills (e.g. in information retrieval) as a way of gaining promotion as an advanced practitioner – previously the only route was the managerial route
- Team working, in multidisciplinary teams, is more common, and outreach work as a clinical librarian is increasing
- Development and cascading of critical appraisal skills is important
- Rapid decision making can be supported through provision of better quality information
- New services may be developed with a variety of information providers including publishers and public health analysts
- Management of knowledge for clinical governance support, and risk management is becoming more important
- Research skills are vital for librarians if they are to support evidence-based practice

### **2.6.2 UKCHIP and professional accreditation in health informatics**

The UK Council for Health Informatics Professions (UKCHIP) was formed in 2002 to promote professionalism in health informatics (UK Council for Health Informatics Professionals, 2004). At present it operates a voluntary registration scheme, although it is expected that by 2008 anyone working in the NHS in health informatics should be registered. The discussion document (Anon, 2002) includes libraries and knowledge management within the scope of health informatics professionals. The document also notes the problems of the growing numbers of professional bodies and associations that might represent health informatics professionals. The fragmentation is not considered helpful to the development of health informatics as a discipline. The Council is currently sponsored by the British Computer Society.

The report to CILIP (Health Executive Advisory Group, 2004) (Section 2.6.1) suggests that CILIP should refocus its interest away from first qualifications to continuing professional development. Consultations for the report indicated that health librarians believed that membership of CILIP was of no professional benefit to them and the membership was not valued by their employers. The report recommended (p.37) that CILIP should offer a structured CPD package with accreditation.

### **2.6.3 International trends: the health informationist**

The 'informationist' as defined by Detlefson (Detlefson, 2002) is a clinical health information professional with added qualifications, gained either through graduate education or experience. Starting points for such posts could be clinicians gaining specialist skills in medical or health informatics, or librarians gaining additional skills and qualifications to enable them to work on an equal footing with medical and health professionals. The Eskin Biomedical Library has operated the Clinical Informatics Consult service that integrates librarians into clinical teams, providing support for the development of skills in presenting information to clinical teams, and developing specialist search and filter skills (Florance, Guise, & Ketchell, 2002). The Oregon Health & Science University program (Hersh, 2002) has courses in four areas: medical informatics, health and medicine, computer science and quantitative methods, and Hersh proposed that traditional library science training might be complemented by additional material on EBM,

as well as clinical medicine and health care organisation basics to provide one pathway to medical informatics. There are now several modes of advanced training in the USA in bioinformatics for information and library professionals (Helms, Bradford, Warren, & Schwartz, 2004), and the areas of responsibility for these new posts appear to demand good communication skills, anticipation of client information needs, identification, evaluation of specialized databases and tools (e.g. genome sequencing databases), knowledge management and support for research, education and training, writing (to support research projects) and intranet systems development. The model tested and evaluated for Eskin Biomedical Library includes modules in molecular biology, genetic analysis, biotechnology, research literature and databases (Lyon, Giuse, Williams, Koonce, & Walden, 2004). Other university libraries in the USA have introduced 'bootstrap' training in scientific literacy skills for non-science librarians (Peterson & Kajiwar, 1999)

Other large health libraries in North America have improved staff skills in web development, including web databases (Moore, Garrison, Hayes, & McLendon, 2003), as well as pairing professionals and support staff in training for work at a single service desk (combining circulation, reference and curriculum support) (Moore, McGraw, & Shaw-Kokot, 2001). New roles are also expected in supporting patient safety initiatives (Zipperer & Sykes, 2004). Other research on changes in roles for reference librarians (Scherrer, 2004) reported that librarians were doing more teaching, more outreach, using technology in more innovative ways to provide better access. As a result, evaluation of library activity needed to reflect these changes in role.

#### **2.6.4 Research on UK trends in health informatics education**

A survey on the changing requirements of health information professionals (Pearson & Urquhart, 2002) examined the job specifications in advertisements (n=43) for health information professionals, excluding the purely technical ICT posts, public relations and health promotion posts. The research, supplemented by interviews (n=9), found that there were similarities in the skills required of the traditional library roles and the information analyst, information officer roles, but differences in the degree of specialist skills required or expertise. For example, an enquiry desk requires reference interviewing skills and a help desk also requires similar skills to delineate a technical problem. Specialist IT skills for library staff may focus on information retrieval searching and filtering, whereas the information officer may be more concerned with applications support. Information analysts need to be highly numerate but this has not been a major requirement for librarians in the past. The survey identified five main groups of health information staff, excluding the managerial level:

- Traditional library setting – the assistant librarian
- Non-traditional library setting – but requiring some specialist librarian (or knowledge management) skills in literature searching or specialist information provision
- Information analysts (the largest group), working with management information
- Information administration/management (practice managers, records managers)
- Trainers (in both library and non-library settings, for ICT and/or literature searching support)

Comparison of the skills requirements with the skills as set out in *Information for Health (NHS Executive, 1998)*, clinical education requirements for health informatics (Severs & Pearson, 1999) and some of the QAA subject benchmark statements for undergraduate education revealed that librarian education was likely to be lacking in

- domain knowledge required for work in the health sector
- ICT skills for intranet management

- numerical and analytical skills required to support interpretation of the evidence in more advanced critical appraisal

The survey also indicated that library staff might be 'trapped' in the library part of the spectrum of the health informatics profession if they did not possess these skills.

#### **2.6.4 Research (1995-1998) on health librarians, training, and educational provision**

Training needs analysis, in 1993, of library staff in the South Thames (East) Region (Cox, 1995) indicated many factors affected the decision to go on a course (topic, cost, location, staff cover). For professional staff the main priority was IT skills, followed by management skills, and then financial management. For non-professional staff the top priority was the same (IT skills) followed by general information skills training. A training needs analysis to develop a training framework for the South West Region (Kitch, 1995) found a similar pattern with professional librarians requesting training on computers (online searching, use of LMS), teaching skills, leadership skills, use of statistics, political awareness and time management. Non-professional staff wanted training in basic IT, use of the CD-ROM, reference interviewing, and time management. Thirty two people requested mentors to support their CPD, and 17 offered to act as mentors. The training plan was devised to meet identified needs and desired formats for training, and then evaluated, with 145 training (event) evaluation forms returned, from 47% of the staff (43 individuals). Results indicated that:

- Of the external courses attended, staff achieved their objectives totally (62%) or partially (32%), and 66% had put new ideas into practice
- Of the 21 training visits, all appeared to have met objectives and 62% of those involved had implemented new ideas as a result
- Of in-house training, staff achieved their objectives totally (61%) or partially (23%), and 50% had put new ideas into practice.

A questionnaire survey (Farmer, Richardson, & Palmer, 1998) conducted by the Library Association Health Libraries Group in 1996 asked about education and research needs of health librarians. Of the 2079 members of the Health Libraries Group surveyed, 583 valid responses were obtained (28% response). Results indicated that practitioners thought their input important for education of future information professionals by Library and Information Studies departments in universities. Many had offered unpaid placements to students, and welcomed the principle of more formal input into teaching, although over half did not want to be listed as willing to give talks to students. Comments indicated that the practitioners themselves emphasised the importance of practical skills, team-working and other transferable skills.

Library staff in the higher education sector have been increasingly working in hybrid library services where the IT services and library services are more strongly linked, whether formally converged or not. The IT component (and associated skills) are necessary for the support of electronic information services, although some of the library services are still print based. Staff training and development is vital in a hybrid library (Garrod, 2001), both for academic staff as well as library and information services staff, as the HyLiFe project demonstrated in Plymouth. For senior staff, the HIMSS project (Abbott, 2003) demonstrated that heads of information services required good general management skills, including strategic planning and influencing skills. Appreciation of role of ICT was probably more important than technical expertise itself. Specialist skills and knowledge was probably required in areas of intellectual property, copyright, aspects of teaching and learning related to information provision. The main gaps were primarily in generic management areas, and the main barriers were not concerned with the opportunities for formal training, rather the lack of opportunities for potential candidates for senior positions to gain experience and practise the higher level skills required.

### **2.6.6 NLH librarian development programme: 2000 review**

A national review on training needs (Maynard, Kinnell, White, & Yu, 2000) (Maynard, 2002) was undertaken in 1999 by LISU, for the NHS Executive and the Regional Librarians Group. The librarian development programme (Fraser, 1999) (LDP) competencies were based partly on work of the Medical Library Association (USA), TFPL, the Library Association. The review by LISU was informed by a knowledge, skills and abilities (KSA) analysis, definitions of tasks adapted from a law library framework and a measurement of actual training needs. Participants were asked what training they had received in each of the specified KSA areas, and to choose five areas in which they would most like training. The response rate was 53% (1017/1902).

Priority areas for general training were:

- CD-ROM, online database searching (although 88.4% had already received some training)
- Internet searching (although 76% had already received training)
- Critical appraisal/synthesis of information (42.7% had received training)
- Knowledge management (only 23.1% had received training)
- Nationwide health information provision (26.2% had received training)

On the more specific health information training, the main priorities were

- Evidence based decision making (36.3% had received training)
- Current NHS programmes and policies (25.3% had received training).

On technical training, the main priorities were:

- Intranet/local area networking (17.4% had received training)
- HTML design/programming (21.8% had received training)
- Desktop publishing (16.9% had received training)
- Spreadsheet packages (51.9% had received training)

On management, training, and research methods, the main priorities were:

- Financial management (23.1% had received training)
- Strategic planning (21.0% had received training)
- Teaching methods (27.9% had received training).

The report contrasts some discrepancies. For example, the lack of perceived need for training in quantitative and qualitative research methods (less than 3.5% required this) did not match the larger numbers wanting training in evidence-based decision making. Respondents were sometimes unable to make the link between the desired activity they wished to pursue, and the underpinning skills and knowledge required. The preferred training method was hands-on practice followed by workshop/seminar, with a clear preference for interactive approaches, within working hours. External local courses were generally the favourite method of receiving training although there were regional variations.

### **2.6.7 NLH librarian development: 2003 review**

A review to determine the training provision and training requirements for NHS librarians (Lacey & Booth, 2003) conducted desk research on the training opportunities (study days, workshops and formal education) for NHS librarians. A training needs framework was developed on the basis of meetings with several regional library co-ordinators, the COMPLIANT framework (Contextual knowledge, Managerial, Professional, Learning and

teaching, Interpersonal and the more health specific examples of NHS structures and Technical skills).

The review was commissioned by the NLH librarian development programme, created to provide a national framework to support librarians moving into new roles. At the time of the review the plans for the NHSU were to make e-learning the focus of its teaching and learning strategy, and health informatics one of the first priorities.

Data collection for the review involved requests to the lis-medical discussion list (JISCmail) for information on training events attended and contact with workforce development co-ordinators, to request details of training needs analyses undertaken. Information was also collected on suggestions for e-learning course topics and face-to-face courses that might be adapted for e-learning.

Results indicated that there were many opportunities (36.5% of all training opportunities) for critical appraisal, literature searching, and evidence-seeking skills. The main training providers for generic skills were ASLIB, CILIP, and TFPL. Costs varied from study days from around £60 per person (including VAT) for the study days put on by health library groups such as LfN (Libraries for Nursing) to over £300 (for ASLIB courses).

Training needs were identified through discussions with several regional library co-ordinators. The key training needs were:

- advanced searching skills
- critical appraisal
- people management and the management of change
- marketing and service promotion.

Underpinning knowledge was required on:

- NHS structures and processes related to performance measurement and benchmarking.

The take-up of training varied across the country, and the approach was reactive rather than strategic. A long list of suggestions for e-learning topics was developed.

### **2.6.8 Evaluation of the pilot FOLIO programme**

The Facilitated Online Learning Interactive Opportunity (FOLIO) programme was devised by Andrew Booth (SchARR, University of Sheffield) and Alison Turner (Library Partnerships Co-ordinator for the National electronic Library for Health). The NeLH commissioned Andrew Booth to deliver the course between January and April 2003.

Three online professional development courses were delivered, in project management, evidence-based librarianship and 'Evaluating your service'. Evaluations were very positive, with most participants happy that they could integrate the courses into their day to day work. The most problematic aspects were the technical problems with firewalls and the 'buddying'. Recommendations suggested that future courses should run over 6 weeks rather than 3 weeks, more use to be made of online readings and materials, and courses should be limited to 40 participants.

## **3 Survey methods**

### **3.1 Expert informant interviews**

Interviews were conducted with several expert informants, including representatives for

- workforce modernisation
- South Yorkshire Academy

- NHSU
- Museum, Libraries and Archives Council (MLAC)
- National electronic Library for Health
- IT

The Learning Environment Manager, Valerie Monaghan, contacted most of the local informants prior to the interview, to gain their consent. The interviews were taped (provided the interviewee agreed) and transcribed. Broad themes were identified from the interview transcripts. These were used to assist the scenario planning.

## **3.2 Questionnaire survey**

### **3.2.1 Questionnaire design**

A questionnaire was developed based on some existing competency statements, using the framework set out in published guidance on training needs analysis (Bartram & Gibson, 1994). This separates the training needs into:

- Technical/specialist skills
- Interpersonal skills
- Underpinning information and knowledge

The future skill requirements of library staff in South Yorkshire (as indicated in the strategic document (Monaghan, 2003)) were categorised into those three categories and respondents were asked to read this sheet first as a way of helping them think about future skills training needs.

A question (Q.2) asking about skills in routine practice was based on the isNTO list used to forecast future skills needs for libraries, archives and records management, with some categories added to cater for paraprofessional staff. This question was intended to assess whether there were any major gaps in skills that staff perceived now.

Question 3 asked about future skills and knowledge required (categorised by the Bartam & Gibson framework as above). Question 4 asked what the respondents thought the main changes would be over the next three years, specifying what they would do more of, and what type of activities would decrease. Question 5 asked them to consider what the main changes would be in the skills required by librarians (and other specialist staff) and the staff working in more junior or general roles, in their particular library and information service. Question 6 invited them to consider what the main gaps were in health library and information services in general. Question 7 asked whether they had other skills that were not being used in their current post. Questions 8-10 asked about preferred training modes, preferred training times, and barriers to receiving training. Finally, question 11 asked about their feelings of competence in a wide variety of skill areas. The skills listed were based partly on the work activities listed in the draft occupational standards for health informatics (Christie, 2004b).

Questions were piloted with staff from one site in the area. Follow-up telephone interviews also served as interviews to identify common concerns of staff about education and training. Minor changes were made to the survey instrument as a result of the pilot.

### **3.2.2 Sample**

The questionnaire was sent out to all the NHS library staff listed on email lists supplied by the Learning Environment Manager, as well as higher education funded library staff who serve NHS staff under a service level agreement. Those who had taken part in the pilot were excluded from the main phase questionnaire survey but their responses were included in the findings. Batches of questionnaires were sent to the library managers at each main library site, asking them to co-ordinate the distribution and return of

questionnaires wherever possible. Respondents were supplied with reply paid envelopes to ensure that their replies were confidential, but replies could be batched for return to us.

### 3.2.3 Response

Of the 78 names on lists supplied to the research team, 48 responses were obtained (61.5% response). Of these 21 responses were obtained from non-professional staff (as far as could be judged from job title) and 27 from professional staff.

The response from the NHS staff was better than the response from the higher education staff. This is perhaps predictable as HE staff have other training possibilities open to them, and are not so dependent on courses offered through the Workforce Development Confederation/Strategic Health Authority or local NHS Trust.

## 4 Results

Findings are organised by theme. Demographic details precede the thematic analysis.

### 4.1 Demographics of respondents

Most respondents worked in acute NHS trust libraries (Table 1), most were qualified at least to degree level (Table 2), and most belonged to CILIP as their professional organisation, although only one in four belonged to CILIP (13/48). The profusion of different titles for the more senior roles indicates that job roles are diverging for the more highly qualified staff (Table 3), into knowledge management, training and other specialist roles. One in four (12/48) of the respondents were undertaking continuing professional development (CPD) at present

Location	Number
Acute NHS Trust	24
University (HE funded)	15
Primary Care Trust	8
Mental Health Trust	1
<b>TOTAL</b>	<b>48</b>

*Table 1 Work location of respondents*

Academic qualifications	No.	Professional / vocational qualifications	No.	Current courses	No.
Undergraduate degree	27	CILIP	13	CILIP chartership	2
Postgraduate degree	11	City & Guilds	5	Postgraduate degree	2
PGCE	1	NVQ	4	FOLIO	2
Diploma (HE)	1	ECDL	3	ECDL	3
A-levels	2	ALA	3	Certificate FE, City & Guilds	1
HNC/HND	0	BTEC national diploma	1	Certificate in management	1
		GNVQ	1	In-house train the trainer	1
		IM&T Cert Health	1		
		DMS	1		
		RSA	1		

*Table 2 Academic qualifications and professional/vocational qualifications*

Nobody mentioned registering for UKCHIP. Fewer than one in four possessed a postgraduate degree, although two were completing one at present. Only one mentioned a formal teaching qualification.



<b>Job category</b>	<b>Frequency</b>
Knowledge/library service manager (Including knowledge/library service manager, library manager, assistant director)	8
Technical/specialist roles (including KM specialist, academic liaison librarian, clinical effectiveness support, information officer/specialist, technical services co-ordinator)	10
Technical/specialist training ( training & web sciences, library & info skills co-ordinator)	3
Librarian (site librarian, deputy librarian, librarian)	6
Senior library assistant	9
Library assistant	7
Other admin & clerical (service administrator, customer services assistant, project assistant, co-ordinator, patient health information officer,	5

*Table 3 Job role categories*

The proportion studying for a degree is similar to that found in the national survey in 1999 (Maynard, 2002), which found that 2.2% were studying for a postgraduate (Masters) degree, and 1.1% studying for a Bachelor's degree. Among the S. Yorkshire respondents, 4.2% were studying for a postgraduate Masters degree, although none was studying for an undergraduate degree. Two were undertaking the e-learning FOLIO programme (sponsored by the National electronic Library for Health) and three were undertaking the ECDL.

## **4.2 Current skills gaps**

### **4.2.1 Top level priorities**

Skills gaps that seem immediate priorities are in those activities where more people indicated that they needed training than indicated that they perform the task. These are:

- Design of web pages (10 do, 14 need more training)
- Writing bids (10 do, 11 need more training).

For knowledge managers, and those developing extended roles for their service these skills are vital. Underpinning these activities are skills in intranet management, financial management, and development of a business case.

### **4.2.2 Second level priorities**

The next group can be categorised as those activities where 50% or more of those who do the activity indicated that they needed training. (There seems to have been some variation in the interpretation of this question, as it was assumed that only those who performed the activity would indicate a need for training, but the prioritisation of training needs can be estimated nevertheless).

These are:

- Appraising the results of literature searches (17 do, 13 need more training)
- Managing the use of financial resources and planning (15 do, 10 need more training)
- Developing contractual arrangements with suppliers (10 do, 8 need more training)
- Preparing risk assessment / disaster planning (8 do, 6 need more training)
- Designing training sessions (15 do, 9 need more training)
- Delivering training (21 do, 12 need more training)

- Evaluating the training provided (11 do, 9 need more training)
- Maintaining web pages (14 do, 8 need more training)

The emerging themes here are financial management, research skills and statistical knowledge (for critical appraisal), and education and training (in design, delivery and evaluation of training programmes). Web pages recur, with skills required in content management. A more discrete area of training is that of risk assessment and disaster planning, although there would be a financial element to this as well.

<b>Routine tasks and duties</b>	<b>Do this</b>	<b>Need more training</b>	<b>Routine tasks and duties</b>	<b>Do this</b>	<b>Need more training</b>
Managing the use of financial resources and planning	15	10	Leading a team/committee which is cross-departmental	11	5
Ensuring that statistics of library activities are maintained accurately	35	2	Participating in a team which is cross-departmental	28	3
Developing contractual arrangements with suppliers	10	8	Designing web pages	10	14
Managing the use of physical resources (loans, OPAC, re-shelving)	36	0	Maintaining web pages (content management)	14	8
Ensuring that the library is organised, and maintained in a way to make it easy for users to find resources independently (e.g. shelving books)	38	0	Preparing risk assessment/disaster/emergency planning	8	6
Dealing with enquiries by phone, email or face to face	46	3	Writing bids (e.g. for project funding)	10	11
Demonstrating use of databases (on a one-to-one basis)	37	7	Cataloguing and classifying material	20	5
Demonstrating use of technical equipment (e.g. printers, CD-ROMs)	34	4	Processing catalogued and classified material	25	2
Using databases in literature searching	42	8	Conservation and making repairs of stock	18	2
Appraising the results of literature searches	17	13	Designing promotional material	25	9
Dealing with technical hardware problems	13	6	Preparing promotional material, displays	30	7
Designing training sessions (group)	15	9	Leading a team within the library	16	3
Designing training materials	12	8	Obtaining documents from other sources (ILL)	19	3
Delivering training (group)	21	12	Writing reports	28	8
Evaluating the training provided	11	9	Reviewing performance	23	8
Organising the administration for training sessions	17	1	Photocopying and printing of requests	35	0
Managing book/AV loans and overdues	34	0	Explaining library procedures to users	41	1
Dealing with receipt of periodicals	21	1			

*Table 4 Skills gaps*

#### 4.2.3 Third level priorities

The final group of skills needs are those that around, or more than a quarter of those who indicated that they performed the activity indicated a competency gap. These were in:

- Reviewing performance (23 do, 8 need more training)

- Writing reports (28 do, 8 need more training)
- Designing promotional material (25 do, 9 need more training)
- Preparing promotional material, displays (30 do, 7 need more training)
- Cataloguing and classifying material (20 do, 5 need more training)

The traditional types of task undertaken by library assistants and librarians are not areas where training is required. Explaining library procedures to users, shelving, demonstrating use of technical equipment and similar tasks are not problematic.

#### **4.2.4 Changes in skills gap perceptions**

The profile of skills gaps has shifted from the situation five years ago when the LISU survey ((Maynard et al., 2000) (Maynard, 2002) was conducted, in two significant ways. Firstly, the perceived need for training in several areas seems much greater. The gap between training received and training required, although estimated in a different way, seems smaller. For example, on the national survey in 1999, 165 (16.9% of the sample) had received training on intranet/local networking, 208 (21.8%) in HTML design/programming. Training was required by 162 (17.2% in intranet/local networking, and by 155 (16.5%) in HTML design/programming. For none of the skills areas did more than 20% of the group indicate a training need in the 1999 national survey. The intranet and web page management skills are now much higher priority, although only for around a quarter of the respondents. Secondly, there is more emphasis now on education and training – principles of learning and teaching. Nearly half the respondents appear to be involved in some aspect of teaching.

Emerging areas are those of presentation of information, from preparation of promotional material to writing reports and bids. The emphasis on cataloguing and classification is unexpected, as under 10% of the respondents in the national survey in 1999 indicated that they needed training in classification systems/subject schemes. What seems to be happening is that this type of library work is being done by library assistants, rather than by professional staff.

#### **4.2.5 Summary of current skills gaps**

Summarising from this question, the main perceived training needs for more senior or specialist staff concern:

- Principles of web design and intranet management
- Financial management and quantitative methods, for development of business cases, critical appraisal, monitoring contractual arrangements, performance review and risk assessment
- Educational principles for design and evaluation of training sessions

For the more junior and more generalist staff the main training needs concern:

- Cataloguing and classifying material
- Preparation of promotional material

### **4.3 Future skills needs**

Respondents were asked to indicate what training they expected to be useful to their presumed future roles. Not all respondents completed this question, and even fewer provided some reasons but even so, some trends are apparent.

#### 4.3.1 Future technical/specialist skills

The most popular technical/specialist skill required was web authoring and management, teaching, critical appraisal, research/searching and critical appraisal (Figure 1). The main future areas of training needs reflect those of the current training needs, with critical appraisal skills, and research skills (and presumably quantitative methods) high priority, as well as web authoring/ management, and teaching. The most important new aspect of teaching skills is in the provision of an e-learning environment, and this reflects policy initiatives for e-learning to support skills updating by NHS staff.

Other areas mentioned by a small number of respondents were IT skills (general and specific, for URL linking) and the management of tacit knowledge.

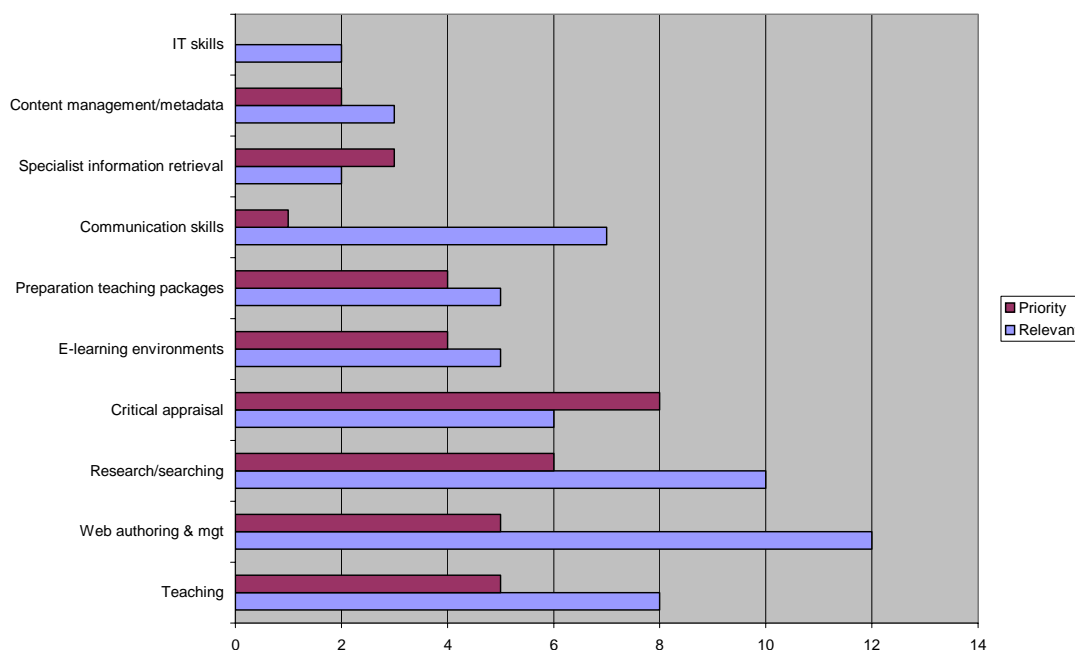


Figure 1 Future technical and specialist needs

#### 4.3.2 Future interpersonal skill needs

As far as future interpersonal skills needs are concerned (Figure 2), skills associated with outreach and collaboration activities are important. These include marketing and promotion, partnership and team working, leadership, project management and customer care. Project management, and partnership working are the main priorities.

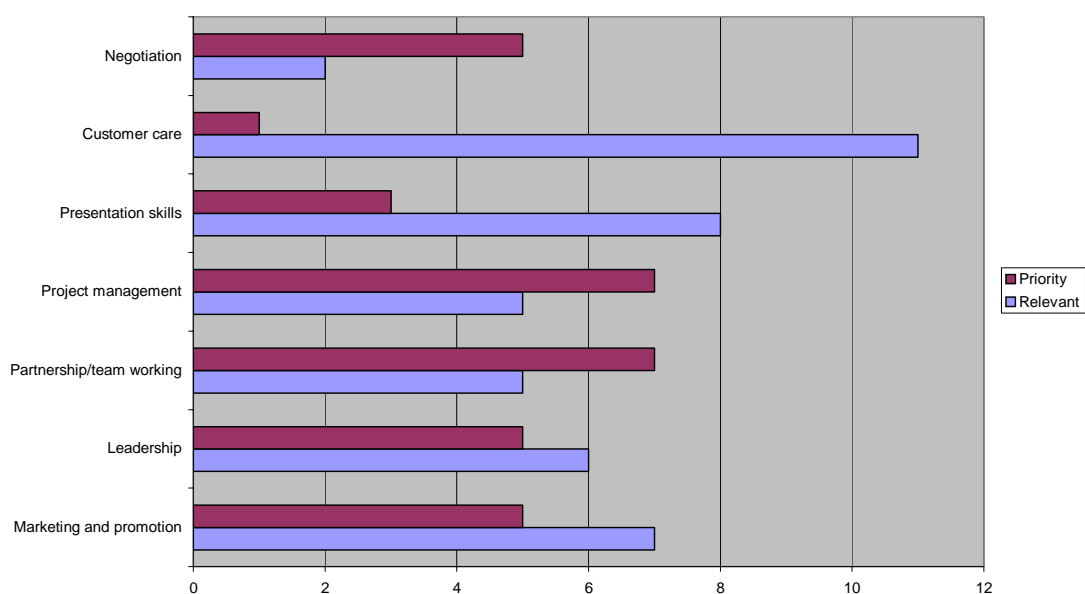


Figure 2 Future interpersonal skills needs

#### 4.3.3 Future requirements in underpinning knowledge

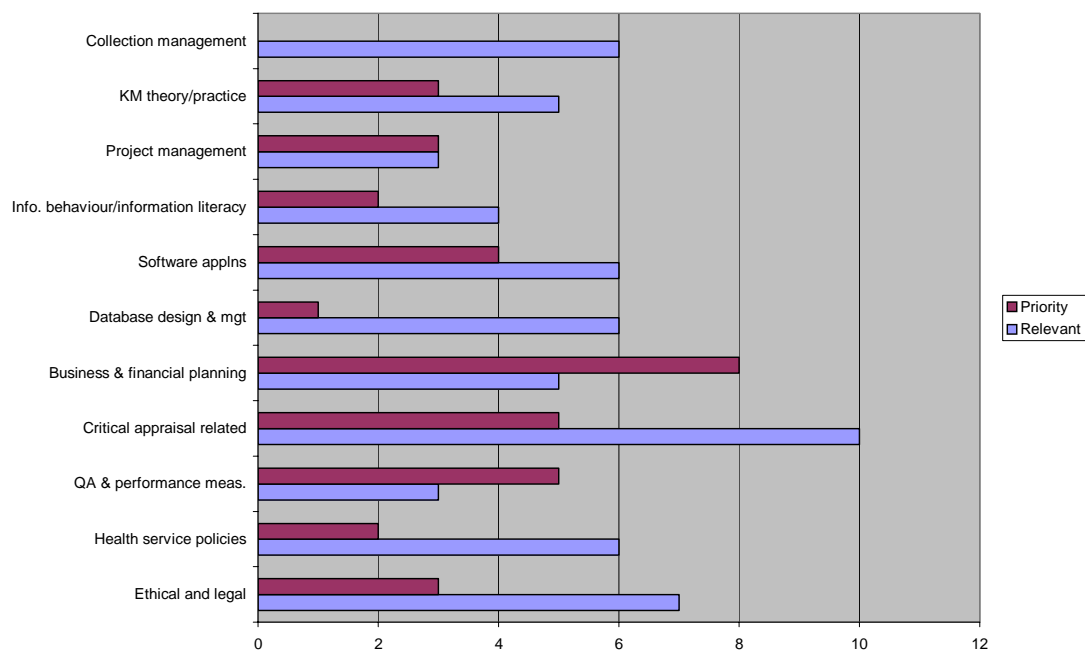


Figure 3 Future underpinning knowledge requirements

The main priorities for underpinning knowledge are in business and financial planning techniques, and in the searching and sifting for critical appraisal (research methods and web searching). Ethical and legal issues 'constantly need to be updated' as one respondent noted. PRINCE project management methodology was mentioned. Many of the underpinning knowledge requirements are shared by other staff in the NHS. A few require specific application to the information and library services, such as information literacy, specific ethical and legal aspects (copyright and licensing), collection management and knowledge management. Other areas mentioned by two respondents were educational principles, bid writing, and ICT in general.

#### **4.3.4 Discrepancies and consensus in skills and knowledge required.**

One of the comments made in the previous national survey (Maynard, 2002) was that there were discrepancies in the perceptions. For example, few believed that they needed training in research methods, but much larger numbers required training in evidence based decision making. To understand evidence based decision making and to assist in critical appraisal requires knowledge of research methods, and at least a basic knowledge of statistics.

Respondents in this survey seem more aware of the underpinning knowledge required for some of the activities currently undertaken, although there are some discrepancies.

The main training needs for more senior or specialist staff were (Section 4.2.5):

- Principles of web design and intranet management
- Financial management and quantitative methods, for development of business cases, critical appraisal, monitoring contractual arrangements, performance review and risk assessment
- Educational principles for design and evaluation of training sessions

For the more junior and more generalist staff the main training needs were:

- Cataloguing and classifying material
- Preparation of promotional material

The respondents agreed that they required underpinning knowledge in financial management and business planning techniques and this mapped to the current skill gaps in writing bids, and managing the use of financial resources and planning, developing contractual arrangements.

Another major gap in current skills was web page design and content management of web pages. Underpinning knowledge requirements include metadata, presentation of information and use of style sheets, database design. Respondents were less aware of the technical requirements for web page design and intranet management (although cataloguing and classification skills appeared as a current skills gap), but they were aware that knowledge management theory and practice would be important. The technical aspect of knowledge management is related to intranet design and content management systems.

A major gap in skills for training and education was identified as a current skills gap but only one respondent identified educational principles as an underpinning knowledge gap of the future. Respondents were more concerned, perhaps, in what they were teaching and some of the theoretical frameworks for information literacy and information behaviour, and critical appraisal than the educational principles surrounding design and evaluation of training. Another possible reason for this discrepancy is that many of the librarians now doing training perceive that this will become a specialised role for trainers in the future. On the other hand, the perception that knowledge of software applications would be important recognises, perhaps, that library staff will be asked to assist with some packages associated with e-learning schemes.

#### **4.4 Changes to the library service in the next three years**

Respondents were asked where they expected library activities to increase over the next three years, and correspondingly, which activities would decrease. Responses were grouped, as far as possible, to reflect policy initiatives in the modernisation agenda (and lifelong learning), clinical governance and multidisciplinary working. The main change expected was more support for learning and CPD, particularly e-learning support, and development of services which involved the NHS network and 81.3% of respondents

viewed this an area of expansion (Table 5). The second group of activities could be classed as support for clinical and research governance (for 64.6% of the respondents). Just over half (52.1%) of respondents identified partnership and outreach activities as something their library would increase over the next three years. Respondents expected the library to do more of the following activities:

- E-learning development, and educational support
- Web-design, content management
- Knowledge management
- Partnership and collaborative working
- Information skills training

To support those changes the implication was that the library would become more digital, and that networking of resources, 24/7 access would be essential. There seemed to be less clarity over the support required for knowledge management in comparison to the links between information skills training (for use of databases) and educational support for e-learning. Simply providing 24/7 access to resources does not mean that the resources are immediately useful to the new users, although there was some awareness that promotion of library services had to be tailored to the needs of new user groups.

Category	Number of mentions	Category	Number of mentions	Category	Number of mentions
<b>Increased learning &amp; CPD support, exploitation of networks, including...</b>	<b>39 (81.3%)</b>	<b>Increased support for clinical and research governance, including...</b>	<b>31 (64.6%)</b>	<b>Increased partnership and outreach activities, including...</b>	<b>25 (52.1%)</b>
E-learning development, educational activities, distance learner initiatives	9	Information skills training, Internet & database training	13	Promotion and marketing of service, provision tailored to community needs	10
24/7 electronic delivery, online servicing, virtual information services	9	Research, literature retrieval, evaluation of resources, tracing for systematic reviews, mediated searching	10	Partnership & collaborative working, outreach working, working with social care, meetings with trust staff	8
Access to electronic resources, making information more accessible	8	Records management, exploitation of local and remote resources, managing organisational knowledge	4	Dealing with off site enquiries, current awareness, interaction with users via intranet, online catalogue	5
Web design and management	7	Involvement in national initiatives	2	Computerised circulation system, new building	2
New technologies, systems, IT based work	5	For patients, demonstration of improved quality	2		
More of everything we do now	1				

*Table 5 Activities expected to increase*

The assumption seemed to be that more could be done with less, or that more staff would be required as there were fewer mentions of activities that would lessen over the next three years. Predictably, the main change expected was a decrease in access to physical library resources, and possibly fewer basic IT support queries (Table 6).

Category	Number of mentions	Category	Number of Mentions
<b>Access to physical resources in library</b>	<b>35 (72.9%)</b>	<b>Basic IT support</b>	<b>5 (10.4%)</b>
Book/hardcopy based information provision, book lending, manual issue & discharge	17	Basic IT skills support & training	3
Photocopy print delivery, inter-library loans, journal subscriptions	9	Face to face training	1
Face to face customers	4	Information retrieval for clients	1
Cataloguing and classification	2		
Printed leaflets, less paperwork	2		
Equipment supply	1		

*Table 6 Activities expected to decrease*

## 4.5 Changes to professional skills and knowledge

The main changes expected of library managers locally were increased IT skills, particularly in web site management, and that could be related to the specialist knowledge management skills in organising knowledge and providing information for different groups of patients and staff. Library managers were also expected to be more entrepreneurial, with better leadership and project management skills for working outside the library setting (Table 7). There was less mention of the underpinning knowledge required (two respondents mentioned marketing, three mentioned critical appraisal skills, and one mentioned educational principles).

Category	Number of mentions	Category	Number of mentions	Category	Number of Mentions
<b>Technical</b>	<b>18 (37.5%)</b>	<b>Specialist</b>	<b>16 (33.3%)</b>	<b>Interpersonal and leadership</b>	<b>16 (33.3%)</b>
Advanced IT, web skills, web editing, solving highly technical problems	10	Managing organisational knowledge, Information to different groups, KMt	5	Anticipate and innovate to health service change, leadership and change management, business planning, finding funds	4
Managing & developing electronic information services, virtual environment, remote facilities	5	Training users to access information effectively	5	Project management (collaborative), Report writing	4
E-learning skills and packages	3	Evidence-based practice, sifting and filtering information	2	Inter-department working, being more visible	4
		Using management information, demonstrating value of LIS	2	Multi-tasking, personnel skills, liaison with users, negotiate	4
		Managing wide variety of electronic resources, use of electronic resources	2		

*Table 7 Expectations of local library professionals*



More junior staff were expected to have increased IT skills, e.g. for content management and maintenance of web pages. Junior staff are expected to take on roles that might have been the preserve of professional staff some years ago, such as information skills training. To do that, they themselves need to know how to use electronic resources more effectively, and have more specialist knowledge of services (Table 8). The interpersonal skills required could mostly be grouped under the theme of customer care.

Category	Number of mentions	Category	Number of mentions	Category	Number of mentions
<b>Technical</b>	<b>14 (29.2%)</b>	<b>Specialist</b>	<b>23 (47.9%)</b>	<b>Interpersonal</b>	<b>10 (20.8%)</b>
IT skills, solve minor technical problems. troubleshooting	9	Use electronic resources more effectively, literature search	10	Answer off site enquiries, good customer service, communicate, negotiate, deal with different groups, partnership working	8
Web maintenance, update web material	4	Do basic information skills training, show users basic information on Internet	8	Multitasking, time management	2
Use LMS with more sophistication	1	Act as administrators, office managers, take on more responsibilities, key role in marketing and liaison, broaden skills	5		

*Table 8 Expectations of local junior library staff*

Fewer respondents were prepared to state their opinions on general skills gaps among library staff in the area, or how they might compare to other health library staff. As so few answered this question (10 respondents) the results are not tabulated in detail. The main technical skills for managers remain e-learning, and web site development, content management. The main specialist skills remain training and teaching skills, and critical appraisal (and related database knowledge). A wide range of interpersonal skills were listed, with the only common theme being strategic management.

Similarly, for the junior library staff, more advanced IT skills remained a strong need, as did training (and associated searching) skills, with customer care a theme of the interpersonal skills listed.

In conclusion, there seems consensus that the main changes expected are that library managers and professional specialists should have improved skills in:

- Strategic management of the virtual knowledge service (and associated technical skills for web site and intranet management)
- Knowledge management (to support clinical governance, and ensure the service is of value to the organisation)
- E-learning, and learning and teaching skills (to assist users in making use of the services provided, ultimately to improve practice)
- Leadership and interpersonal skills (to ensure that the electronic information services meet the needs of new user groups, and that changes are managed efficiently and effectively).

Similarly, junior library staff should have improved skills in:

- IT (for content management, general IT skills for troubleshooting minor technical queries and using library management systems)
- Literature searching (and basic training of users)
- Customer care (including dealing with an increasing number of non face-to-face enquiries).

#### **4.6 Perceived competence**

Respondents were asked to rate their competence in 45 areas of expertise, comprising traditional information professional and paraprofessional skills and competences as well as some of the areas identified as of importance in the South Yorkshire strategic documents. The list is not comprehensive, as the isNTO lists, for example, well over 60 sub-categories of skills and competence. The main aim was to encourage a good response by inserting examples of routine skills and competencies as well as some of the newer emerging skills.

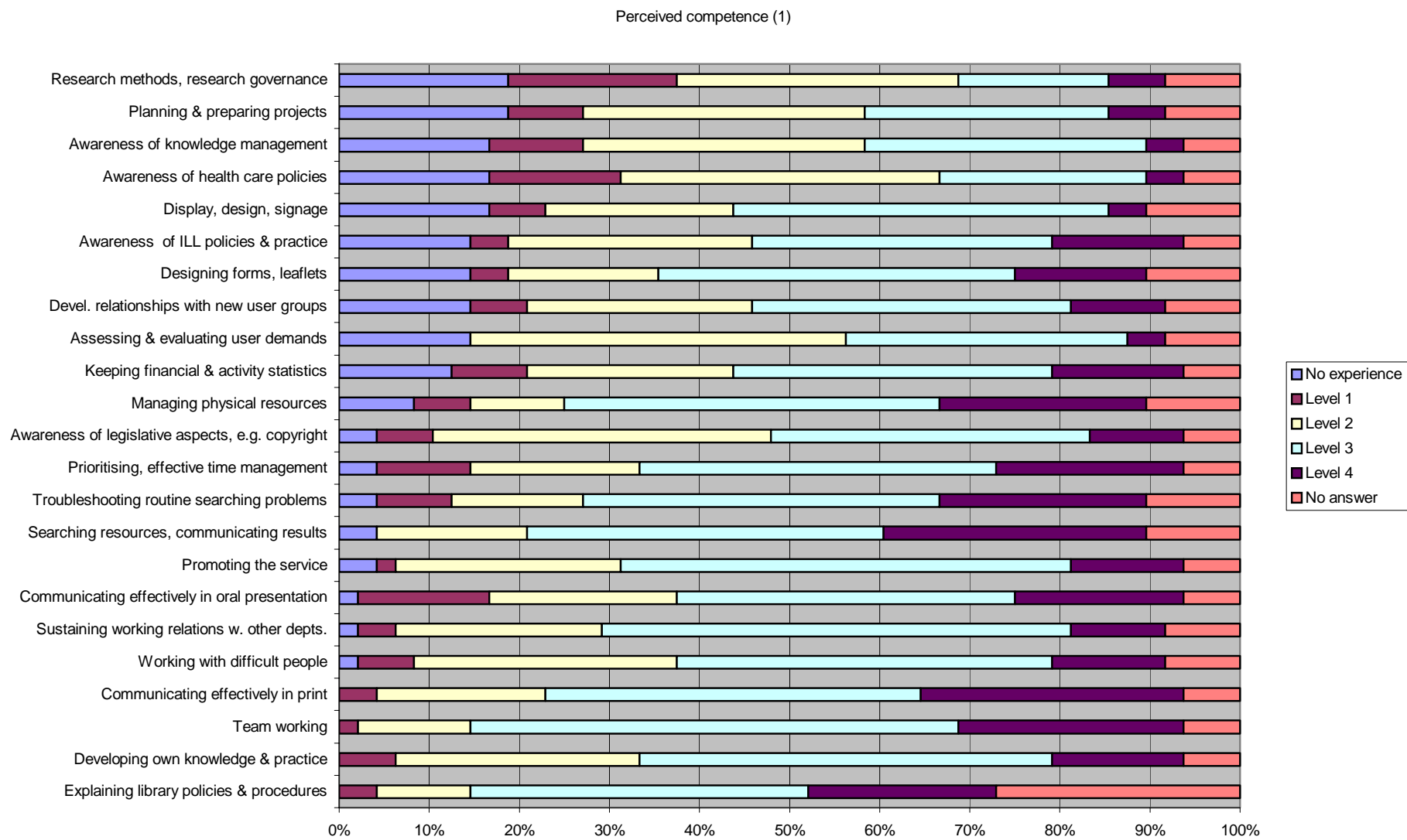


Figure 4 Perceived experience and competencies (1)

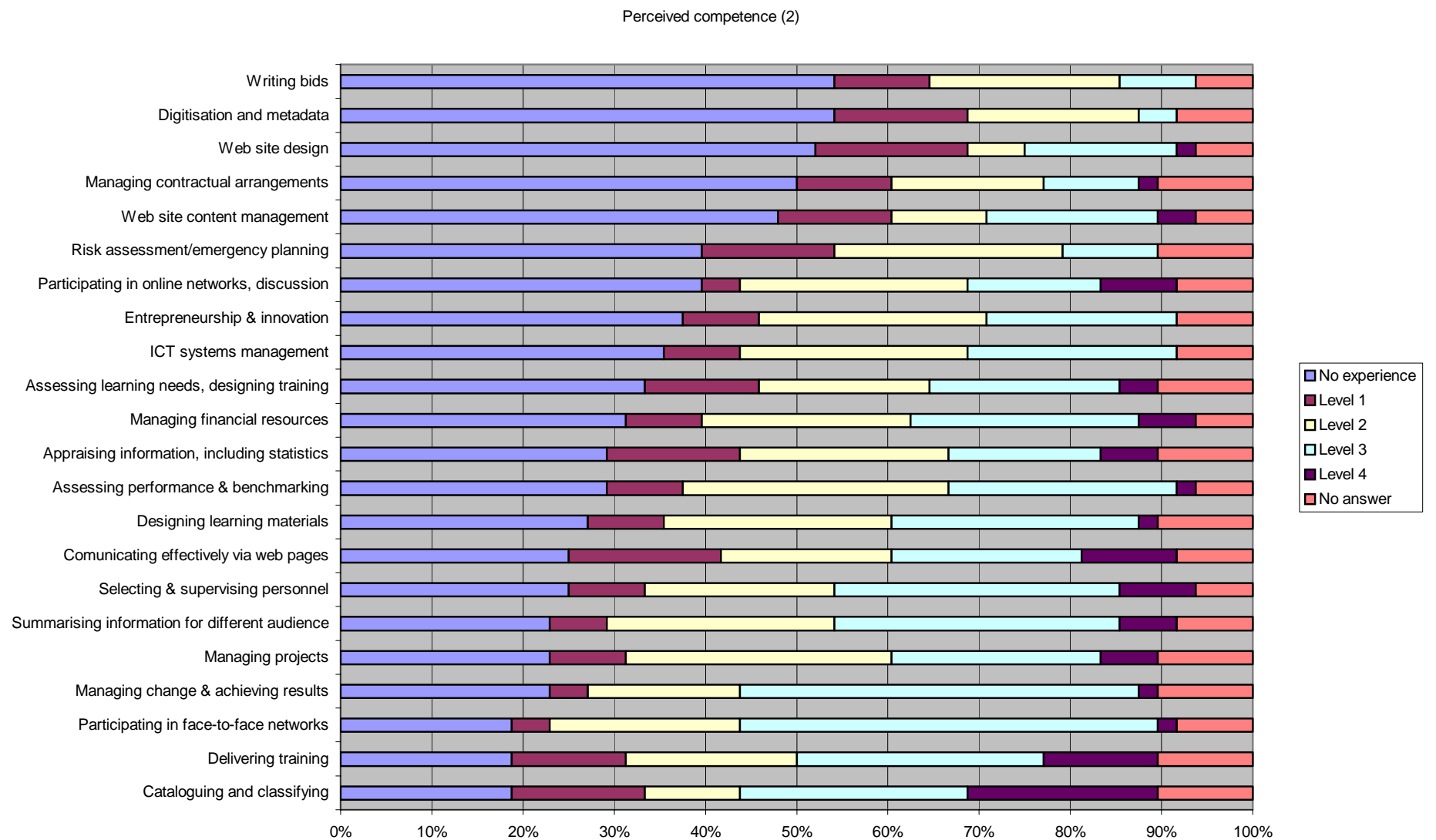


Figure 5 Perceived experience and competencies (2)

The results show that all respondents had experience of explaining library procedures, team working, and communicating effectively in print. Relating some of the advanced practitioner or specialist skills to the corresponding novice skills, some of the barriers to library service development are more obvious.

#### *Team working to innovation*

Fewer than 30% rated themselves below the highest level of competence at team working, and fewer than 20% rated themselves below the highest level of competence at sustaining working relationships with other departments (although a small percentage had no experience of this).

BUT over 10% had no experience of developing relationships with new user groups, over 35% had no experience of entrepreneurship and innovation, 50% had no experience of managing contractual arrangements, and fewer than 5% rated themselves at the highest level of competence on managing change and achieving results, participation in face-to-face networks, or assessing and evaluating user demands for services. Over 20% had no experience of project management and only around 5% considered themselves expert in project management. Over 50% had no experience in writing bids.

#### *Cataloguing to metadata and intranet management*

Around 20% considered their skills were of the highest level at cataloguing and classification, although nearly 20% said they had no experience.

BUT over 50% had no experience of digitisation and metadata, and nobody considered themselves expert at that, and over 70% did not consider their skills in web site content management exceeded the second level of competence.

#### *Communicating in print to catering for the needs of remote users over the Internet*

All had experience of communicating effectively in print, over 50% considered their skills in designing forms or leaflets to be at level 3 or 4, and nearly 50% gave their skills in display and signage a similar rating.

BUT over 20% had no experience in communicating effectively via web pages (although 10% rated themselves as expert), and over 20% had no experience of summarising information for different audiences, with around 5% rating themselves as expert.

#### *Simple searching and calculations to critical appraisal and more advanced quantitative methods*

Around 20% considered their skills in searching resources and communicating results to be at the highest level (and nobody considered themselves at level 1). Although over 10% had no experience of keeping financial and activity statistics, 50% considered their skills to be level 3 or 4 in that.

BUT just under 20% had no experience of research methods, and research governance, and just over 20% considered their skills to be level 3 or 4. Nearly 30% had no experience of assessing performance and benchmarking, or of appraising information, including statistics. Fewer than 10% considered themselves experts in critical appraisal, and even fewer considered themselves expert in performance measurement and benchmarking. Over 30% had no experience of managing financial resources, and around 50% considered themselves at level 2 or 3 in that.

#### *Own reflective practice to supporting others in clinical governance*

Around 70% rated their skills in developing their own knowledge and practice at level 2 or 3, and all had experience in this.

BUT over 15% had no experience of knowledge management, around 60% rated their skills at level 2 or 3, and fewer than 5% considered themselves expert.

*From Basic technical support to web site design and ICT systems management*

Over 20% considered themselves expert in troubleshooting minor searching problems.

BUT nobody considered themselves expert in ICT systems management, and over 50% had no experience of web site design.

*From simple messages to ensuring effective learning*

Over 50% considered themselves at level 3 or 4 in communicating effectively in oral presentation.

BUT only 40% considered themselves at level 3 or 4 in delivering training, and nearly 20% had no experience. Over 25% had no experience of designing learning materials and over 30% had no experience of assessing learning needs and designing training programmes. Under 5% considered themselves expert in the latter set of skills.

*From shelving to prioritising risks*

Around 20% consider themselves expert in managing physical resources

BUT nearly 40% have no experience of risk assessment and emergency/disaster planning and nobody considered themselves expert.

The responses from paraprofessional staff show that over 50% had no experience in:

- Managing financial resources
- Assessing performance and benchmarking
- Managing contractual arrangements
- Participating in discussion online
- ICT systems management
- Writing bids
- Digitisation and metadata
- Entrepreneurship and innovation
- Web site design, web site content management
- Risk assessment.

Of these, the lack of experience in participation in online discussion indicates that e-learning would need to be carefully supported with this group. Paraprofessional staff might also be expected to deal with web site content management and this is another gap. Lack of experience in the other skills might be expected.

Of more concern might be the observation that around only around 15% rated themselves expert in keeping financial and activity statistics, under 30% considered themselves expert in managing the physical resources, or effective time management, and under 20% considered themselves expert in troubleshooting routine searching problems.

## **4.7 Untapped skills**

Response to the question asking about skills possessed but not used in the current post provided few responses, but also some evidence that skills acquired in voluntary work or previous work experience could be transferred, profitably, to meet some identified gaps. Several respondents had organised events, been involved in fundraising or other activities which required presentation of a case, or more creative design. The skills acquired could be employed in some of the work required to develop and sustain relationships with new user groups, and the more artistic aspects of web site design.

## 4.8 Identifying opportunities for practising new skills

Five librarians were asked to complete, over the period of two weeks in October 2004, an activity log (Appendix 2). The categories were based on the activity log categories in (Bartram & Gibson, 1994) supplemented by those indicated from the interim analysis of questionnaires and interviews. Participants could add other categories. Three were able to undertake the task, and provided in total, 10 days worth of activity logging. The results indicate that activities vary from day to day (as expected) and that some librarians spend a lot more time on activities such as literature searching than others (Table 9)

	Subj. Mins.	A /day		Subj.	B	Subj.	C				Total (n = 10)
Activity	Day1	Day2	Day3	Day1	Day2	Dayq 1	Day2	Day3	Day4	Day5	Av. Mins /day
Maintaining & improving quality & perf.	120	60	90	30	120	30	60		90	60	66
Instigating change		30	105	30	60						22.5
Monitoring & planning finance & material res.	30	30		30	90						18
Recruiting & developing staff											0
Developing & motivating staff	30	45		60	60				60		25.5
Allocating tasks, monitoring results	60	30									9.0
Developing effective working relationships.	60	90	15	60	60	45					33.0
Teaching information skills etc.		120	60			30		105		60	37.5
Solving problems, decision-making	120	45	60	30	30	30		15		45	37.50
Persuading & influencing others				30							3.0
Reflecting on new organisational policy				30	30						6.0
Marketing of services, incl. Development of web pages	30		30	30	30						12.0
Administration & covering enquiry desk			90			60	90		45	60	34.4
Literature searching						120	240	240	180	120	90.0
Preparing business case						60			60		12.0
Collation of current awareness bulletin										120	12.0
Travel				165							16.5
Total minutes	450	450	450	495	480	375	390	360	435	465	435
Hours	7.5	7.5	7.5	8.25	8.0	6.25	6.5	6.0	7.25	7.75	7.25

Table 9 Activity log analysis

It would require a wider analysis from more librarians to make safe generalisations from Table 9 but these librarians seemed to be spending far more time on 'monitoring' activities than on strategic service development. If the activities are divided into general management, human resource management, strategic management/marketing and specialist work the average time allocated per day is as follows:

165 minutes: General management (quality monitoring, financial/resource monitoring, task allocation, solving problems, administration and covering enquiry desk)

58.5 minutes: Human resource management (developing & motivating staff, developing effective working relationships)

55.5 minutes: Strategic management/marketing (instigating change, persuading and influencing others, reflecting on new organisational policy, marketing of services, preparing business case)

139.5 minutes: Specialist (teaching information skills, literature searching, collation of current awareness bulletin)

16.5 minutes Other (travel)

In this activity log, which may not be representative, very little time (three minutes per day on average) was spent on 'persuading and influencing others' and similarly 'reflecting on new organisational policy' only took up six minutes per day on average. These are skills that might be considered leadership skills. The situation in which many of these librarians find themselves may not allow sufficient time to develop and practise skills required for future roles.

## 4.9 Preferred modes of learning

Unsurprisingly, perhaps, the preferred methods of learning were the more personal and interactive (Table 10). Group learning of some variety was the preferred route, private reading the least popular.

Learning method	Frequency of mention % (n=48)
Internal group training	54.2
Small group discussion	52.1
One to one	47.9
Tutor directed study	41.7
Presentations	37.5
Distance or e-learning	22.9
Learner directed study	18.8
Private reading	2.1

*Table 10 Preferred learning methods*

Comments affirmed that workshops and some interaction were preferred.

The preferred training times were, in order of preference half day (58.3% rated this as first priority), full day (37.5% rated this as first priority), and much lower were evening and weekend training. Around 70% rated evening training as 3<sup>rd</sup> in priority and weekend training as 4<sup>th</sup>. Comments indicated that family commitments made weekend and evening training events very difficult, and full day training events could be very concentrated. Respondents obviously have many other commitments outside work, with over 40% citing these as a barrier to training.



The main barrier to training is, however, the demands of the staff rota with 56.3% citing this as the main barrier. Just under 10% considered they did not need training, and 18.8% considered that lack of financial support was a major barrier.

Interviews conducted during the piloting of the questionnaire indicated that the following attitudes might influence whether staff would take up the training opportunities offered:

- 'don't need it for my job' – perceptions of a very gradual accumulation of skills and experience (mainly among library assistants)
- concerns about being asked to mentor – problems of the time and commitment, responsibilities involved in mentoring
- personal development planning would require some fuller appraisal of skills and competencies possessed.

## 5 Options appraisal

### 5.1 Basis of estimation

For ease of calculation and presentation the costing is done on the basis of:

- 50 healthcare library staff (25 library assistants, 25 professionals)
- course or 'module' costs based on average TFPL costs, London base, so that cost per person attending is £300 (course) plus travel (£100), totalling £400 per day per participant. CILIP course costs vary considerably but a figure £400 per day per individual would cover most CILIP courses. It is assumed in the costing that those attending would not be members of CILIP. The costs are comparable to the costs of a 20-credit module within a postgraduate programme (e.g. a distance learning scheme), although a figure of £500 is probably more realistic. For the purposes of comparison a figure of £450 is used to cover either an external one day course or a 20-credit postgraduate module (which would require more days study, of course, but could count towards a postgraduate qualification).
- professional association study costs based on Health Libraries Group day costs of around £80.00 per day for the event, plus travel (£100) totalling £180 per day per participant.
- Masters programmes fees are assumed to cost £4000 overall, plus some additional costs for materials, or study events, and/or travel, totalling £4500 over a two year period. Most part-time Masters courses run over a two year period, but some distance learning schemes are more flexible, and students are allowed a longer time to complete their studies. More specialist Masters schemes may be more expensive (the MSc in Pharmaceutical Information Management at City University costs around £6000, for example). Staff cover for study leave requirements estimated on the basis of 10 days per year at £125.00 per day, totalling £1250. For one year the total cost is £3500.
- In-house training (for one day training) organised within the South Yorkshire area may be provided by a trainer or small team of trainers, at a daily rate of £1000 (fee inclusive of VAT, plus trainers' travel and subsistence, training materials costs (£500) for a group of 20 delegates. Other costs include room booking, and subsistence costs for delegates (lunch, tea and coffee) at £800 per day. Delegates' travel costs estimated at an average of 20 miles, 50pence per mile for each delegate, totalling £200 for the event. Total costs for a one day event estimated to be £2500. No provision is made for staff cover. These courses need not necessarily be limited to library staff.

- In-house training (half day) organised within the South Yorkshire area, provided by one trainer, at a rate of £700 (fee inclusive of VAT), plus trainers' travel and training materials costs (£350) for a group of 20 delegates. Other costs include room booking, and refreshment costs for delegates at £400 per event. Delegates' travel costs estimated at an average of 20 miles, 50pence per mile for each delegate, totalling £200 for the event. Total costs for a half-day event estimated to be £1650. No provision is made for staff cover. These courses need not necessarily be limited to library staff.
- Mentoring and coaching will require some 'protected time', and allowance may need to be made for training for mentors, and some staff cover, given the need for regular meetings and contacts. The staff costs will obviously vary depending on the pay scale of those being mentored and the mentors. A nominal cost of £300 per day is used in the estimation (to cover two members of staff).
- Local Trust training should be covered for many staff by their Learning Account, but a nominal cost of £50 per person per course is assumed.
- E-learning support. Some allowance needs to be made for assignment work, additional materials, study time. On average, and assuming that e-learning packages are supported and subsidised nationally, allow £100 per participant annually per course.

## 5.2 Strategic approaches to options development

The interviews with the expert informants illuminated the likely support to be provided for many of the training options listed above and some of the strategic issues within the library domain and the health service domain.

### 5.2.1 Healthcare library staff.

No mention was made of the need to increase staff numbers but common themes were the role of library staff in supporting e-learning by other health staff, and supporting evidence-based practice and clinical governance by showing how information skills support improved practice..

*'to encourage nursing staff, practice nurses to use the Internet, the intranet to actually search for information and to help with their day to day work'*

Future roles might include a greater emphasis on supporting the provision of information to patients and the public.

*'potentially...a big role to play in information for the public and patients as linking the two sides of health care together'*

At one level there needs to be support for lifelong learning, supporting learners with access to resources both within and outside the NHS library networks. At a more strategic level there is a need for people to support the process of change, supporting experiments in new models of service delivery and helping those involved share experience. This is knowledge management in the sense of helping to make the tacit knowledge sufficiently explicit for others to share, and making staff more aware of their own knowledge management.

*'part of the challenge...is all about how do we get a very responsive service in the first place...the need for knowledge around service development, change, new service models, new ways of working...how do we get access to knowledge and information about what's working elsewhere and what's going on elsewhere around service improvement and modernisation'*

*'there is clearly some work to be done to support how we develop those (knowledge management) skills in not only library managers I guess but more broadly within staff as a whole'*

### **5.2.2 Courses offered**

Local training providers or brokers include MLAC (Museums, Libraries and Archives Council), NHS trusts, FE colleges and higher education institutions. Leeds Metropolitan University, for example, has a library training consortium. MLAC acts more as a broker, offering advice on courses or broker training that is needed. Their skills foresight indicated that staff would need courses on health and safety and topics such as that which would be provided internally by the NHS, as part of induction or general updating. Above the basic level there are management level skills, and above that leadership and advocacy. Library staff could choose to consider domain (MLAC-supported) training and support in management and leadership skills, or NHS-oriented, multidisciplinary training. Within the NHS, to support the change agenda there may be more emphasis on multidisciplinary training, to help appreciate how changes could be made.

*'I am strongly, strongly in favour of multidisciplinary training...because I think it gives more responsibility to the whole team and it moves away from the fairly hierarchical setup which seems from my perspective to dominate, predominate I the NHS. And the library members as part of that team are crucial members...they wouldn't be thought of as first port of call in a multidisciplinary team, um, education and they ought to be pulled in. Because certainly access to information is a critical factor in learning.'*

*'You do need to take people out of their working environment in order to be able to focus on what it is they need to do. You have actually quite a multidisciplinary side of things...being able to link that member of staff say from libraries into a training course that's got people from other bits of the NHS on it which has value in its own right.'*

National training providers such as CILIP or TFPL offer courses that are usually located in London.

Within the NHS there is pressure to promote National Vocational Qualifications as there is funding for that, and from 2005 certain staff will need to be registered, at NVQ level 3.

ECDL training is supported nationally throughout the NHS, but the preference is for customisation of the ECDL to suit needs. The rationale is that it is better to support staff in the skills that they need, and to ensure that they complete a course tailored to their needs, rather than failing to complete the entire ECDL. The basic level which suits a wide variety of staff covers the basic PC, file management with Microsoft Windows and the use of email and the Internet.

### **5.2.3 Supporting informal learning**

MLAC has recognised the importance of mentoring, and can support this through the 'Close encounters' scheme which covers the travel costs of anyone travelling to another museum, library or archive, to shadow or observe. The scheme asks applicants to set out their objectives, and some evaluation is expected.

Buddying (Section 2.6.8) has been tried on the pilot FOLIO programme (with limited success for group buddying) and the current roll-out of FOLIO is using pair buddying.

### **5.2.4 E-learning**

The common theme was that e-learning was a solution for some learning needs but for some staff it does not work and they drop out. E-learning is not the universal panacea, but for some it can offer learning in suitable chunks.

*'it doesn't suit everybody so I wouldn't offer e-learning as the solution because we've had quite a number of drop-outs from it because people find it isn't how they prefer to learn.'*

*'But for the people it does work for, they like to learn in chunks and they like to be able to do a bit each day or save it up for a couple of days. And for them it (e-learning) works quite well.'*

## 5.3 Options development

### 5.3.1 Appraisal

Three main options are presented. The main differences are the extent to which external courses are used to supply training, and the extent to which in-house training is used. Both one day and half day training courses are included as the responses indicated a preference by some staff for half-day training, although it is likely that one-day courses are better value for money.

Appraisal considers **risk, value for money, and flexibility**.

**Assessment of risk** questions are:

- How easy will it be to match training needs and learning styles to course provision?
- Will there be problems if staff drop out of designated training?
- How dependent is the option on external providers?
- How dependent is the option on finding or arranging a large number of events/modules locally?

**Value for money** questions are:

- What is the cost per head for the training option?
- How many 'training days' or modules are offered. For the purposes of easier comparison the costs of one training day can also be equated to the costs of undertaking one postgraduate 20 credit module (180 credits would be required for a complete Masters, 120 credits for a postgraduate Diploma, and 60 credits for postgraduate Certificate).

**Flexibility of provision** questions are:

- How easy is it to make changes in light of emerging needs?
- How easy it to make changes to meet changes in staff skills profile?

### 5.3.2 Option one: focus on external specialist courses

This option illustrates the impact of relying on either local, Trust-based training, at the NVQ, ECDL level for library assistants, combined with specialist training aimed more at the professional staff. The specialist training would be provided by external providers, based in London, as usual. Costs are based on 25 professional staff attending one course and one study day per year.

Three library staff would be supported fully on Masters programmes. These could be postgraduate programmes aimed at providing a professional qualification, a research

training or a specialist technical training such as Web information management. No provision has been made for teacher training qualifications as the recent changes to the City & Guilds 7407, with increased requirements for 'teaching hours' make it more difficult for anyone other than a specialised trainer to fulfil the hours requirement within the time specified.

Leadership coaching (10 days) and mentoring (5 days in total) are included in each option as there is an identified need for leadership skills and support in 'persuading and influencing', moving beyond team working in the library towards proper support of multidisciplinary, cross departmental collaboration and knowledge management. Option three provides for more mentoring and coaching than the other two options.

Library staff training would be provided at Trust level, with two courses per year. There would be some element of e-learning support. These remain constant for all the options as there seems no reason for making distinctions at this level. Much depends on how and when Individual Learning Accounts are negotiated, and how e-learning provision within a Trust is organised.

The summary details for Option one (Table 11) are:

Total costs	£38,250
Costs per head (based on 50 library staff)	£765
Number of training days/modules provided	50
Cost per 'training day/module'	£765

**Option appraisal: HIGH risk, LOW value for money, LOW flexibility**

### 5.3.3 Option two: emphasis on in-house training

The main differences between this option and option one are a reduced emphasis on external course/module provision and increased emphasis on in-house (or local) training with a mix of half-day and one day courses. The same number of postgraduate students would be supported, but only on a 50:50 basis.

The summary details for Option two are:

Total costs	£42,900
Costs per head	£858
Number of training days/modules provided	215
Cost per 'training/day module'	£200

**Option appraisal: MEDIUM risk, HIGH value for money, HIGH flexibility.**

### 5.3.4 Option three: mixed, with more mentoring

Option three offers fewer locally organised courses/modules than option two, and fewer external courses than option one. Option 3a provides for three postgraduate schemes fully costed (as in option one), Option 3b provides for 50:50 funding (as in option two).

More days are allocated to leadership and mentoring in this option. This could allow for follow-up to the in-house training (or external training) to ensure that the more limited training is put into practice. Mentors or coaches, or collaborative learning arrangements would aim to apply the learning from the formal training.

The summary details for Option three are:

Total costs	£37,800 (3a)	£41,400 (3b)
Costs per head	£756 (3a)	£828 (3b)
Number of training days/modules provided	140	
Cost per training day/module	£270 (3a)	£296 (3b)

**Option appraisal: LOW risk, MEDIUM value for money, HIGH flexibility.**

Annual costs	Number	Option 1	Number	Option 2	Number	Option 3a
Course costs	25	11250	5	2250	5	2250
Study days	25	4500	10	1800	15	2700
PG costs	3	10500	1.5	5250	1.5	5250
Day in-house	0	0	6	15000	3	7500
Half-day in-house	0	0	4	6600	3	6600
Coach/mentor	15	4500	15	4500	20	6000
Local Trust/ECDL	50	2500	50	2500	50	2500
E-learning	50	5000	50	5000	50	5000
		<b>38250</b>		<b>42900</b>		<b>37800</b>
Cost per head		<b>765</b>		<b>858</b>		<b>756</b>
Number of training days provided		<b>50</b>		<b>215</b>		<b>140</b>
Cost per training event/module		<b>765</b>		<b>200</b>		<b>270</b>

*Table 11 Training option cost estimates*

### 5.3.5 Discussion of options

It is difficult to provide precise estimates of the costs of training as it may be possible to negotiate deals with the training providers themselves or to piggyback on to local NHS training or training brokered via MLAC. A large number of staff in the WDC serve NHS staff, but are employed by higher education institutions, or the public library. Training and development routes are possible via their employers, rather than the NHS, and there would be different arrangements for subsidising, in full or in part, the costs of attending training events.

Comparing Option 1 with the other options indicates that organising training locally is cost effective in providing more training opportunities, although the total cost may be larger. No estimate has been made for the costs of organising those events, and the staff time costs for that should be taken into consideration.

Option 2 indicates that providing training locally makes the cost per training event more reasonable. Half day events are popular with the interviewees, but are probably less cost-effective to run than whole day events. Local training, combined with some mentoring or coaching might improve the integration of training into practice. The activity log analysis indicated that little time was actually devoted to key skills for outreach and collaboration activities 'persuading and influencing others' and 'reflecting on new organisational policy'. The skills in team working need to be shifted up a gear to developing relationships with new user groups, maintaining the relationships informally and formally (through contractual arrangements, project management), and development of innovative forms of service delivery.

Option 3 (a.b) is a half-way house between Option 1 and Option 2. More allowance is made for attending study days, and there are fewer in-house training events. This option appears to offer flexibility with reasonable value for money, and is less risky in some respects, but the critical success factors would be the integration of training or knowledge from study days into practice, through mentoring and coaching. The choice of in-house training needs to reflect the needs of most of the library staff, and the respondents indicated a clear preference for interactive workshops, and 'hands-on' training. Some e-learning could help to support some of the underpinning knowledge required. This option is also dependent on identifying study days which would provide support at the appropriate level. This could be difficult given the range of expertise among the library staff.

Options 2 and 3 are explored further in the next section, to map how the knowledge and skills gaps might be met.

### **5.3.6 Delivery options for skills and knowledge required**

The main training needs, synthesising the survey findings with the views of the experts and the activity log analysis can be viewed as learning outcomes, with learning objectives on a spectrum. Some professionals and paraprofessionals may only require an awareness of the principles, others may wish more advanced skills at the higher end of the spectrum. A half day workshop might be sufficient to provide a basic understanding of the principles for some, for the more advanced level of practice a course (or module) will be necessary to provide reflection and practice.

**Learning outcome: Library staff should be able to develop and support cross departmental collaboration, service delivery change, and the management of projects to promote and evaluate services to new user groups.**

More advanced practitioners should be able to lead knowledge management initiatives, and persuade and influence others in improving health service delivery.

Most librarians should be able to manage cross departmental projects, including the project management and contractual support necessary, and should be able to assist in the writing of bids.

Paraprofessionals should be skilled in customer care for 'remote' user groups and should be able to handle 'offsite' enquiries, and deal with online or email enquiries.

**Learning outcome: Library staff should be able to identify the learning support required for various professional groups, including e-learning packages, knowledge of resources, critical appraisal and technical skills.**

More advanced (specialist trainer) practitioners should be able to organise and evaluate training, design training programmes, and be aware of the underpinning educational principles.

Most librarians should be aware of the underpinning educational principles, and should be able to advise library users on the training options open to them, as well as offering one-to-one or small group support for training.

Paraprofessionals should be able to offer advice on training options, and should be able to assist in minor technical queries on the use of e-learning packages, or use of specialist resources.

**Learning outcome: Library staff should be able to support research governance and performance improvement in service delivery.**

More advanced (clinical librarian, specialist KM managers) should be able to explain the principles of research design, identify appropriate research designs for a service problem, and be able to distinguish, and describe, qualitative and quantitative research methods. They should be able to conduct a small scale research or evaluation study of their own, and should be able to use, possibly with some assistance, qualitative and quantitative data analysis packages.

Most librarians should be aware of the principles of research design, and should be able to assist clinicians in critical appraisal.

Paraprofessionals should be aware of the ways in which the various resources support evidence-based practice, and which resources should be used for particular clinical or service problems.

**Learning outcome: Library staff should be able to support knowledge management initiatives and intranet development.**

More advanced practitioners should be able to lead knowledge management initiatives, including the support of initiatives which are aimed at the development of 'tacit' knowledge sharing. They will be able to identify and use an appropriate knowledge management platform, as they will be able to relate intranet design to knowledge management requirements.

Most librarians should be aware of the principles of knowledge management and should be able to map how the various initiatives locally (in clinical governance, service modernisation and so on) fit together. They should be able to advise an intranet manager on how the knowledge resources should be linked into the intranet and the care records service to ensure that practitioners provide quality care to patients, and that patients can make informed decisions. They should recognise the principles of web page design and how software packages such as Dreamweaver can assist.

Paraprofessionals should be aware of the principles of knowledge management and should be able to identify how their work contributes to improved patient care. They should be able to maintain the content of web pages.

### **5.3.7 Mapping learning outcomes to options**

The mapping (Table 12) indicates how the Options map to the required learning outcomes. Some learning outcomes require coaching and mentoring, to ensure that the library staff gain sufficient experience and confidence.

Option 2, with more in-house training offers the opportunity to provide a series of graded workshops, so that staff could choose the level appropriate to them, or where they would choose to stop. Option 3 might only be able to offer half day workshops in some skill areas, but this might be sufficient to meet the basic skill needs.

If the staff wish to have training properly accredited, then some arrangement with higher education may have to be negotiated, to allow students to undertake a module and the associated assessment. This could possibly take the form of a study day plus e-learning or distance learning support and later assessment.

If 'certificates of attendance' are sufficient then courses, study days, and in-house training could provide a variety of topics, at appropriate levels. FOLIO training would also fit into this scheme, although there needs to be some confirmation that students have completed the set work.

There are skills gaps, notably in the quantitative methods of data analysis, where there needs to be more support, over a longer period of time, to build up confidence and



competence gradually. This would encompass not just the statistical knowledge for critical appraisal but also the financial and performance measurement required for strategic and financial management of services.

Learning outcome	Option 2	Option 3	Gaining experience in skills acquired
<b>Cross departmental collaboration, service delivery change, innovation</b>	In-house interactive workshops..	Study day (for a few) and in-house interactive workshop. Course or module for selected advanced practitioners.	Coaching/mentoring for advanced practitioners, and most librarians
<b>Learning support, including e-learning support</b>	Interactive workshops (full and half day). Course or module for advanced group. Use of e-learning packages	Interactive workshops (full and half day) Use of e-learning packages	Should not require specific support – should be practised on a regular basis. FOLIO experience plus ECDL sufficient? /contd.
<b>Research and critical appraisal</b>	Series on in-house interactive workshops. Course, series of study days for basic to advanced group	Interactive workshop (full and half day). Course, or study days for advanced group	Mentoring for most library staff to build on skills
<b>KM and intranet development</b>	Interactive workshop. Course for advanced group.	Workshop (full and half-day)	

*Table 12 Mapping desired learning outcomes to training options*

## 6 Conclusions and recommendations

Reviewing the literature on previous training needs surveys of library staff in the health sector (and more generally) shows that the same themes tend to recur:

- Updating in ICT skills
- Customer care
- Leadership and influencing

Views from library staff tend to focus on the practical skills, what they would like to be able to do, as a result of training. Some of the research indicates that what library staff would like is a quick fix to a problem, an understandable response given the rapid changes in their working environment. Research in South Yorkshire also revealed that the participants focused on the technical/specialist, and interpersonal skills, with less attention paid to the underpinning knowledge that might be required to sustain continuing professional development in new skills.

In the health and biomedical area, changes in skills requirements often arrive earlier than in other library sectors. Those working in NHS libraries have witnessed changes which demand:

- Highly specialist information retrieval skills
- Development of intranets, and awareness of knowledge management

- Teaching skills to design and evaluate training programmes
- Critical appraisal and research skills
- Quantitative data analysis – for the statistics involved in critical appraisal as well as financial management and benchmarking
- Skills to support and develop cross-departmental working, sustain collaborative relationships, and manage the changes involved.

It is necessary to move beyond the 'quick fix' to training gaps and seek solutions which address some of the hidden problems. The problem, as one report indicated, is less the availability of training opportunities, but finding a cost-effective solution to meeting training needs across a set of staff.

Synthesising participants' views of the future needs, the main needs identified were:

- Strategic management of the virtual knowledge service (and associated technical skills for web site and intranet management)
- Knowledge management (to support clinical governance, and ensure the service is of value to the organisation)
- E-learning, and learning and teaching skills (to assist users in making use of the services provided, ultimately to improve practice)
- Leadership and interpersonal skills (to ensure that the electronic information services meet the needs of new user groups, and that changes are managed efficiently and effectively).

Similarly, junior library staff should have improved skills in:

- IT (for content management, general IT skills for troubleshooting minor technical queries and using library management systems)
- Literature searching (and basic training of users)
- Customer care (including dealing with an increasing number of non face-to-face enquiries)

The observation that the same themes have recurred over the years, despite the availability of training opportunities suggests that one difficulty is the follow-up in practice. This was found in a study of middle level library managers in higher education, and that certainly reflects the findings of the activity log analysis for the South Yorkshire librarians. Much time is spent on operational management activities, and very little time was devoted to the environmental scanning, and 'persuading and influencing'.

Our **recommendations** are that training provision should be accompanied by appropriate follow-up, to ensure that library staff have time to reflect on, and build on skills. For some of the leadership skills, coaching is the appropriate support. For supporting library assistants in development of skills to enable them to take on roles that have traditionally been the librarian's, mentoring might be more appropriate.

We also **recommend** that careful comparison is made of the costs and benefits, for the individual and the organisation, of:

- external training courses versus higher education postgraduate modules (costs may be similar, the external courses may offer opportunities for networking, but the modules may offer accreditation and more opportunities to integrate assessment into practice)

- external training courses and study days versus in-house or locally organised study days (costs of external training severely limit the number of staff who might be able to attend, although there may be greater opportunities for networking)

We suggest that a combination of:

- some external courses and study days, OR higher education modules

PLUS

- in-house, or locally organised training events

would provide flexibility with a satisfactory number of training opportunities. Tailoring the in-house courses to need, and providing half day and day options might make it easier to provide training on topics at two levels, basic and more advanced. There is a range of expertise among the library staff surveyed, and courses should if possible be matched to need.

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## Appendix 1 Questionnaire

Dear

### TRAINING NEEDS ANALYSIS

A team from the Department of Information Studies, University of Wales Aberystwyth has been commissioned by Valerie Monaghan, the Learning Environment Manager to conduct a training needs analysis of healthcare library staff in South Yorkshire.

As part of the **training needs analysis** we need your responses to the attached questionnaire. The replies you provide will inform the next stages of the work, and help to prioritise your training needs. We made the questionnaire as straightforward to complete as possible, with as many tick boxes as possible. We are asking the same questions of a wide range of staff, and we would be grateful if you would try to respond to all of the questions – but that does not mean that you have to fill in all the boxes! We hope that some of the more reflective questions will help you in your own personal development planning.

We would like you to approach the questionnaire in the following way:

1. Read through the next page 'Future Roles', which sets out how roles might change, according to the *Libraries, information and knowledge* strategy for South Yorkshire.
2. After reflecting on how this might affect you, proceed to the questions themselves.
3. Questions 1 and 2 ask about you and your current duties and tasks.
4. Questions 3 to 7 encourage you to 'think the unthinkable' about the possible changes in your role or career, and whether you have untapped skills or knowledge.
5. Questions 8 to 12 ask about the ways in which you would like training delivered, and your views on your current skills.
6. Once you have completed the questionnaire, please return it to us in the reply-paid envelope **by 28 September 2004. Thank you for your help.**

**We undertake to keep the data you provide in a secure location, and deal with your replies in confidence. No information or comments that you provide could be traced back to you personally in any report produced for the project.** We will anonymise the data, keep the data securely, and destroy data once the project is complete, in accordance with the policies of the University Ethics Committee for Research Procedures, and our own departmental policy.

Yours sincerely

Project team: Siân Spink, Jane Durbin, Christine Urquhart



## FUTURE ROLES FOR HEALTHCARE LIBRARY STAFF

Some of the changes in role are the development of **technical** or **specialist** skills, e.g.

- in teaching information retrieval from databases to small groups of staff
- preparation of teaching packages, e-learning support materials, mentoring
- communication skills e.g. in presenting health information for patients and the public
- critical appraisal of the literature in supporting systematic review work
- specialist information retrieval skills for systematic reviewing e.g. search filters
- research skills in interviewing and questionnaire design
- web authoring
- content management of web pages (e.g. updating, classification, database entry)
- procurement and management of electronic information services, e-journals

Some of the new tasks involved require emphasis on particular **interpersonal** skills, e.g.

- negotiation skills
- time management
- customer care, customer relationship management
- partnership and collaboration working – including working in virtual communities
- team working in dispersed teams
- marketing new services (needs assessment and promotion)
- leadership
- project management
- presentation skills, including printed and oral presentation, art and design work

New roles also demand **underpinning knowledge** e.g.

- ethical and legal aspects of information management (data protection, FOI, governance)
- financial management and business planning
- quality assurance, and performance measurement methods
- project management methodologies (e.g. PRINCE)
- educational principles
- research methods, research design and statistics
- health service policies, history of health and social care
- knowledge management theories/practices
- information behaviour and information literacy
- knowledge of software packages (web authoring, reference management etc)
- database design and management
- collection management (ILL policies, open access publishing etc.)

**Job title**.....

**Location** (e.g. Acute Trust, University, Community Trust) .....

**1. Please tell us the following about yourself.**

a. What academic qualifications do you possess (e.g. HNC, HND, degree)?

b. What professional qualifications do you possess (e.g. CILIP, NVQ, City & Guilds, BTEC)?

c. Are you currently participating in education (FOLIO, degree)? If so, what are you studying?

**2. Indicate, with a tick against the appropriate rows, your routine duties and tasks, expanding the list below by using the empty boxes. Indicate if you need additional training.**

Routine tasks and duties	Do this	Need more training	Routine tasks and duties	Do this	Need more training
Managing the use of financial resources and planning			Leading a team/committee which is cross-departmental		
Ensuring that statistics of library activities are maintained accurately			Participating in a team which is cross-departmental		
Developing contractual arrangements with suppliers			Designing web pages		
Managing the use of physical resources (loans, OPAC, re-shelving)			Maintaining web pages (content management)		
Ensuring that the library is organised, and maintained in a way to make it easy for users to find resources independently (e.g. shelving books)			Preparing risk assessment/disaster/emergency planning		
Dealing with enquiries by phone, email or face to face			Writing bids (e.g. for project funding)		
Demonstrating use of databases (on a one-to-one basis)			Cataloguing and classifying material		
Demonstrating use of technical equipment (e.g. printers, CD-ROMs)			Processing catalogued and classified material		
Using databases in literature searching			Conservation and making repairs of stock		
Appraising the results of literature searches			Designing promotional material		
Dealing with technical hardware problems			Preparing promotional material, displays		
Designing training sessions (group)			Leading a team within the library		
Designing training materials			Obtaining documents from other sources (ILL)		
Delivering training (group)			Writing reports		
Evaluating the training provided			Reviewing performance		
Organising the administration for training sessions			Photocopying and printing of requests		
Managing book/AV loans and overdues			Explaining library procedures to users		
Dealing with receipt of periodicals					

**3. What training do you think would help you become more effective in your current job and in your future career?**

**Please refer to the FUTURE ROLES sheet (on yellow paper).**

Please specify the **type** of training you would find most helpful under the **Technical/specialist**, **Interpersonal** and **Knowledge** categories below.

Indicate which are your **main priorities (with an asterisk)**, and explain why the training is important to you.

**3 a) Technical/specialist training** – relevant to the tasks you perform now, and possibly in the near future.

The following types of training will help me (asterisk the main priorities):


I am particularly interested in these types of training as:

**3b) Interpersonal skills training** – relevant to the interactions you have with people in order to perform your current job, and possibly in the near future.

The following types of training will help me (asterisk the main priorities):


I am particularly interested in these types of training as:

**3c) Information and underpinning knowledge** – to keep you up to date with new developments and changes in the health and social care sector, and professionally.

The following types of training will help me (asterisk the main priorities):


I am particularly interested in these types of training as:

**4. What are the MAIN CHANGES, if any, you expect in YOUR library and information service over the next three years?**

We will do more....	We will do less...

**5. What are the MAIN CHANGES to the KNOWLEDGE AND SKILLS needed in YOUR library and information service in the future?**

<b>Library managers and specialist staff may need to be able to....</b>	<b>Staff working in more junior or more general roles may need to be able to...</b>

**6. Comparing your service with what you know of OTHER similar library and information services – where are the MAJOR GAPS in the skills required?**

<b>Library managers and specialist staff may lack the following skills and knowledge...</b>	<b>Staff working in more junior or more general roles may lack the following skills and knowledge...</b>

**7. Do you personally possess skills that are not being used effectively, or not at all, in your current job? You may have developed these skills from: previous employment; in the home; voluntary work; social or community activities.**

Please describe these skills under these four headings or in your own words.

Working with information (e.g. report writing)	Working with materials (e.g. artistic skills)
Working with ideas (e.g. problem solving)	Working with people (e.g. organising events)

8. Indicate (with a tick) your preferred method(s) of learning new skills and knowledge.

One to one	presentations
small group discussions	learner-directed study
internal group training, workshops	distance learning or e-learning
tutor-directed study.	Other – please state

Comments:

9. Prioritise (1 to 4, with 1=most favoured, 4=least favourite) your preferred training times for formal training sessions.

Half days	Weekends
Full days	Evenings

Comments:

10. What are the main barriers to you receiving training?

Staff rota demands – freeing up staff difficult		No perceived need for training	
Demands on time outside working hours		(Other)	
Lack of financial support at work		(Other)	

**11. Finally, please ring the number that corresponds to your own feeling of competence in each skill area. 0=no experience 1=not confident 4=very confident and experienced**

Managing change and achieving results 0 1 2 3 4	Developing own knowledge and practice 0 1 2 3 4
Managing financial resources 0 1 2 3 4	Selecting and supervising personnel for activities 0 1 2 3 4
Keeping financial and activity statistics 0 1 2 3 4	Working with 'difficult' people 0 1 2 3 4
Managing physical resources 0 1 2 3 4	Team working 0 1 2 3 4
Assessing the performance of the service, and benchmarking 0 1 2 3 4	Sustaining effective working relationships with other departments 0 1 2 3 4
Promoting the service 0 1 2 3 4	Communicating effectively in print 0 1 2 3 4
Assessing and evaluating user demands for services 0 1 2 3 4	Communicating effectively via Web pages 0 1 2 3 4
Managing contractual arrangements 0 1 2 3 4	Communicating effectively in oral presentation 0 1 2 3 4
Searching information and knowledge resources, communicating results 0 1 2 3 4	Assessing learning needs, and designing training programmes 0 1 2 3 4
Troubleshooting routine searching problems of users 0 1 2 3 4	Cataloguing and classifying material 0 1 2 3 4
Planning and preparing projects 0 1 2 3 4	Delivering training sessions 0 1 2 3 4
Managing projects 0 1 2 3 4	Designing learning materials 0 1 2 3 4
Developing relationships with new user groups 0 1 2 3 4	Designing forms, or leaflets 0 1 2 3 4
Appraising information from searches, including statistical methods 0 1 2 3 4	Summarising, or abstracting information for particular audiences 0 1 2 3 4
Participating in networks and discussion groups online 0 1 2 3 4	Participating in networks, discussion groups (face to face) 0 1 2 3 4
Prioritising and effective time management 0 1 2 3 4	Web site design 0 1 2 3 4
ICT systems management 0 1 2 3 4	Web site content management 0 1 2 3 4
Digitisation and metadata 0 1 2 3 4	Display and design and signage 0 1 2 3 4
Writing bids 0 1 2 3 4	Risk assessment/disaster/emergency planning 0 1 2 3 4
Entrepreneurship and innovation 0 1 2 3 4	Awareness of ILL policies, and practices 0 1 2 3 4
Explaining library policies and procedures 0 1 2 3 4	Awareness of health care policies 0 1 2 3 4
Awareness of research methods, research governance 0 1 2 3 4	Awareness of knowledge management 0 1 2 3 4
Awareness of legislative requirements, copyright etc 0 1 2 3 4	Awareness of knowledge management 0 1 2 3 4

Thanks for your help! If you are willing to be contacted again for a brief telephone interview to clarify any comments please provide your name and contact email address:

## Appendix 2 Activity log analysis

### Activity log analysis

Use this sheet to log the activities you carry out during your working day. To find out how much time you are spending on these activities make a mark (five bar gate system) to represent each fifteen minutes spent on the activity which best describes what you are doing. At the end of the day total up the number of marks against each activity and convert this into real time, making any necessary adjustments!

An alternative way of doing this is to mark what you are doing at 15 minute intervals throughout the day (at 9.10, 9.25, etc.)

It doesn't matter which way you approach this – choose whichever method suits you best.

Activity	Day 1	Day 2	Day 3	Day 4	Day 5
Maintaining and improving the quality and performance of what we do					
Instigating change to the way things are done					
Monitoring and planning allocation of financial and material resources					
Recruiting and selecting staff					
Developing and motivating people, including yourself					
Allocating tasks and monitoring results					
Developing effective working relationships					
Teaching information skills, associated activities in preparing/evaluating materials, courses					
Solving problems and making decisions					
Persuading and influencing others					
Reflecting on new organisational policy					
Marketing of services, including development of web pages and content management					
Other (please specify)					